DOLLAR CREEK SHARED-USE TRAIL PROJECT

Initial Study/Initial Environmental Checklist

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1.0 INTRODUCTION

This Initial Study (IS) and Initial Environmental Checklist (IEC) identifies and assesses the anticipated environmental impacts of the Dollar Creek Shared-Use Trail Project (Project), the proposed project.

1.1 ENVIRONMENTAL REVIEW PROCESS

This document satisfies the requirements of the California Environmental Quality Act (CEQA) and Tahoe Regional Planning Agency (TRPA).

For projects subject to CEQA or other state or local environmental review, TRPA shall, whenever feasible, coordinate its environmental review process with the local, state or federal process. Coordination includes joint activities such as scoping, selection of consultants, notice and concurrent comment periods. CEQA encourages similar coordination (Article 14 CEQA Guidelines 15220-15229).

Sections 1.1.1 through 1.1.5 below discuss the general environmental review processes pertaining to the Project.

1.1.1 California Environmental Quality Act

1.1.1.1 County of Placer - Lead Agency

The County of Placer (County) is the lead agency under provisions of CEQA and the California Tahoe Conservancy (Conservancy) and North Tahoe Public Utility District (NTPUD) will participate as responsible agencies. CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. This IS, prepared in accordance with the CEQA Statutes (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (California Administrative Code Section 15000 et seq.), presents sufficient information to allow the County to determine whether the Project may have a significant effect on the environment, requiring preparation of an Environmental Impact Report (EIR). If the County finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the County must prepare an EIR. If the County finds no substantial evidence that the Project or any of its aspects may cause a significant effect on the environment, a Negative Declaration (Neg Dec) shall be prepared. If in the course of analysis, the County recognizes that the Project may have a significant impact on the environment, but that by incorporating specific mitigation measures the impact will be reduced to a less than significant effect, a Mitigated Neg Dec shall be prepared.

The IS also provides sufficient information for responsible and trustee agencies to use as the basis for CEQA compliance, including the Conservancy, Regional Water Quality Control Board – Lahontan Region (Lahontan), California Department of Fish and Game (CDFG), California Department of transportation (Caltrans), California Department of Forestry and Fire Protection (Calfire), and NTPUD. The IS is not, in and of itself, a decision document. The document's purpose is to evaluate the environmental consequences of implementing the Project and to identify measures if necessary to avoid significant impacts.

Although the lead agency must consider the information in the IS, the document's conclusions do not dictate the lead agency's discretion to approve or disapprove the project. The decision making document is the Mitigated Neg Dec that records the agency's decision and is also circulated for public review. The minimum content requirements for a Mitigated Neg Dec are:

- Description and title of the Project;
- Location of the Project, preferably shown on a map;
- Name of the Project Applicant;
- A proposed finding that the Project will not have a significant effect on the environment;
- An attached copy of the Initial Study documenting reasons to support the finding; and
- Mitigation measures, if any, included in the Project to avoid potentially significant effects.

The State Clearinghouse (SCH) circulates the environmental documentation for agency review and requests a completed Notice of Completion (NOC) form to be submitted with the 15 copies of the draft Mitigated Neg Dec. This form facilitates the processing of environmental documents and is circulated to state agencies together with the Mitigated Neg Dec. The information from the NOC form is entered into the SCH database. The normal review period for a Neg Dec submitted to the SCH is 30 calendar days (see CEQA Guidelines, Section 15105). Comments are forwarded to the SCH prior to the end of the assigned review period. At the end of the state review period, comments from the reviewing state agencies are collected at the SCH. A closing letter and a complete package of comments are forwarded to the Lead Agency on the day following the close of the review period.

Within five working days of approving a project for which a Mitigated Neg Dec has been adopted, the County must file a Notice of Determination (NOD). The filing of the NOD begins a 30-calendar-day statute of limitations on court challenges to the project approval under CEQA.

The Project must comply with Clean Water Act (CWA) Section 401 Water Quality Certification and CWA Section 402 National Pollutant Discharge Elimination System (NPDES) construction permits issued by Lahontan. CDFG may require issuance of a Streambed Alteration Agreement for the Dollar Creek bridge span. Placer County issues an encroachment permit for the portion of the Project crossing the street right-of-ways (ROWs). The Conservancy and NTPUD grant a transportation easement. The United States Army Corps of Engineers (USACE) reviews the preliminary wetland delineation and grants a jurisdictional determination.

The County does not issue any permits during environmental analysis or as part of the request to have the County Board of Supervisors approve environmental documentation. Assuming the environmental documentation is approved by the County along with approval of the Project and a Plan Area Statement (PAS) Amendment, design review of the Project by the County's Design Review Committee will occur, as followed by pursuit of various permits and approvals for construction from respective agencies such as the Conservancy, NTPUD, Caltrans, NV Energy, TRPA and Lahontan. In addition, a determination will need to be made on what agency will take the lead on construction and what agency will be responsible for facility operations and maintenance.

1.1.1.2 California Tahoe Conservancy and North Tahoe Public Utility District – Responsible Agencies

The Conservancy, a State agency within the larger Natural Resources Agency, is a property owner within the Project area and a CEQA Responsible Agency. A representative of the

Conservancy is a member of the Technical Advisory Committee and the Conservancy has funded the Planning effort for this trail. As part of the Project, trail and other permanent and temporary improvements are proposed on the public parcels owned by the Conservancy. Following Board of Supervisors' action on the environmental documentation for the Project, the Conservancy Board will consider authorizing staff to proceed with granting needed land tenure (license agreement and/or easements, as appropriate) that allows Project improvements to be constructed.

The NTPUD is a property owner within the Project area and a CEQA Responsible Agency. A representative of the NTPUD is a member of the Technical Advisory Committee and the NTPUD has participated in the planning effort for this trail. Following Board of Supervisors' action on the environmental documentation for the Project, the NTPUD Board will consider authorizing staff to proceed with granting needed land tenure (license agreement and/or easements, as appropriate) that allows Project improvements to be constructed.

1.1.2 Tahoe Regional Planning Agency – Lead Agency

The project area is entirely located in the Lake Tahoe Basin and is therefore under the jurisdiction of the TRPA. TRPA is the lead agency under the Tahoe Regional Planning Compact (PL 96-551 94 Statute 3233). As such, this IEC is prepared in accordance with Article VII of the Tahoe Regional Planning Compact, TRPA revised Code Section 3.3, specifically Subsection 3.3.2, and Article VI of the TRPA Rules of Procedure. The responsible body for the TRPA is the Governing Board. The Governing Board's decisions involve: consistency of the Project with the TRPA Regional Plan and Environmental Threshold Carrying Capacities and project decision for the Project.

TRPA utilizes an IEC, which is used to determine whether an environmental impact statement (EIS) shall be prepared for a project. The IEC provides information identifying the environmental effects of the project. The IEC includes:

- An identification of the environmental effects;
- A discussion of proposed mitigation for significant adverse effects, if any;
- The name of the person who prepared the responses; and
- Supporting data or evidence to support the responses.

1.1.3 Federal

1.1.3.1 United States Army Corps of Engineers

The project area contains no federally owned or managed lands and thus does not evoke provisions of the National Environmental Policy Act (NEPA). The United States Army Corps of Engineers (USACE), however, implements CWA Section 404(B) permits, requiring that a Project Applicant avoid unnecessary environmental impacts by preparing an analysis of alternatives that would potentially result in less adverse impact than the proposed project; to the maximum extent practicable, minimize unavoidable adverse impacts of the preferred alternative; and prepare a compensatory mitigation plan necessary to replace the wetland functions that would be lost as a result of unavoidable adverse impacts.

The USACE can only issue a permit for the least environmentally damaging practicable alternative that meets a project's basic purpose. The USACE independently reviews environmental documentation, determines the sufficiency of the studies, and determines compliance with the CWA, National Historic Preservation Act (NHPA) and other relevant

statutes. If the USACE finds the reports insufficient, it notifies the applicant as to additional information and follow-up reports needed. For this

1.1.3.2 United States Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) plays an advisory role in the CWA 404(B) permitting process administered by the USACE and overseen by the United States Environmental Protection Agency (USEPA). The USFWS mission is working with others to protect, conserve, and enhance fish, wildlife and plants, and their habitats, for the continuing benefit of the American people. The USFWS mission is authorized and accomplished via our various authorities, including: the Fish and Wildlife Coordination Act, Fish and Wildlife Act of 1956, Food Security Act, Anadromous Fish Conservation Act, Migratory Bird Treaty Act (MBTA), and Endangered Species Act (ESA). If a threatened or endangered species is observed within the project area, Section 7 consultation must occur.

1.1.3.3 Advisory Council on Historic Preservation

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account effects of projects on historic properties caused by federal actions, and to provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings though consultation with the California State Historic Preservation Officer (SHPO). The USEPA delegates the California State Water Resources Control Board (State Board) the responsibility for carrying out the requirements of Section 106 of the NHPA.

1.2 PROJECT TITLE

The *Dollar Creek Shared-Use Trail Project* (Project) serves as the project title for the proposed project.

1.3 LEAD AGENCY

The County (CEQA) and TRPA (TRPA Rules of Procedure) serve as joint lead agencies for the Project.

1.4 CONTACT PERSON AND PHONE NUMBER

Peter Kraatz, Deputy Director, County of Placer, is the project manager for the Project. His contact information is: pkraatz@placer.ca.gov and (530) 581-6230.

1.5 PROJECT LOCATION

The Project is located entirely within Placer County, California and primarily within Conservancy and NTPUD owned properties. Figure 1 illustrates the project area location within the Lake Tahoe Basin and Figure 2 illustrates the project area vicinity. The project area is generally linear and crosses State and utility agency-managed public lands in the northern portion of the Lake Tahoe Basin. The Project is located along the north shore of Lake Tahoe north of State Route (SR) 28 between Dollar Hill and Tahoe Vista. More specifically, the Dollar Creek Shared-Use Trail route runs from the Dollar Hill area northeast to an area southwest of Fulton Crescent Drive.

1.6 PROJECT SPONSOR'S NAME AND ADDRESS

Placer County Public Works Department
Tahoe Engineering Division
7717 North Lake Boulevard (SR 28)
Kings Beach, California 96143
530.581.6238 (Phone)
530.581.6239 (Fax)
www.placer.ca.gov/works

1.7 GENERAL PLAN DESIGNATION/ZONING

Applicable regional general plans and county general plans include the TRPA Regional Plan for the Lake Tahoe Basin and County of Placer General Plan.

TRPA Plan Area Statements (PAS) provide a description of land use for a plan area, identify planning issues, and establish specific direction for planning policy for regional goals and policies. The Project transects TRPA PAS 009B – Dollar Hill (near SR 28 and Dollar Drive), PAS 012 – North Tahoe High School, including Special Area 1; and 013 – Watson Creek. The County adopted TRPA's PAS, which act as a zoning equivalent in the Lake Tahoe Basin.

Project zoning includes Conservation and Recreational land use designations.

The project area is located within Agate Bay and Tahoe City hydrologic areas.

The Project Placer County Assessor's Parcel Numbers (APNs) include: 092-010-021-000, 092-010-023-000, 092-010-033-000, 092-010-034-000, 092-010-035-000, 092-010-039-000, 092-010-040-000, 092-010-041-000, 092-010-042-000, 092-240-021-000, 093-010-037-0000, 093-010-038-000, and 93-010-039-000.

1.8 SUMMARY OF PROJECT

The Project establishes a Class 1 or better shared-use trail (i.e., a 10-foot wide paved trail with 2-foot clear zones on each side), a bridge span over Dollar Creek, a marked pedestrian crossing at SR 28 and Dollar Drive, a neighborhood connector at Country Club Drive, and an optional trailhead parking area off of SR 28. The Project provides for an extension of the Tahoe City bicycle trail network, linking residential and recreation uses to jobs, schools, shopping, lodging, and recreation and community areas. Figure 2 illustrates the general Project alignment and Project location. The 2.2 miles of proposed new shared-use trail extends an existing multi-use trail, which ends near the intersection of Dollar Drive and SR 28, to the end of Fulton Crescent Drive, through public lands commonly known as the Dollar and Firestone properties owned and managed by the Conservancy and NTPUD. The Project enhances recreational and transportation opportunities by extending the existing paved trail network in the Tahoe City area, including Tahoe City Public Utility District's (TCPUD) 10-mile Class 1 trail from Tahoe City to Sugar Pine Point State Park and the 3.7 mile trail along the Truckee River to Squaw Valley.

The Project independently implements a smaller portion of the previously studied, eight-mile North Tahoe Bike Trail, connecting Dollar Hill and Tahoe Vista. The Project implements specific goals and policies of the TRPA to provide a non-motorized alternative transportation corridor through North Lake Tahoe. The Project is included in the TRPA Environmental Improvement Program (EIP) as project 761.

The shared-use trail alignment generally follows existing informal trails located on Conservancy, NV Energy, and NTPUD-owned parcels as illustrated in Figure 3. The Project complements the Conservancy-funded Tahoe City "Wye" Recreational Access Project, which provides bike trail parking at the junction of SR 28 and SR 89 in Tahoe City. Construction of the Project will also be a step toward completion of the Lake Tahoe Regional Bicycle and Pedestrian Master Plan (Tahoe Metropolitan Planning Organization 2010).

Trail development details comply with the American Association of State Highway and Transportation Officials (AASHTO) guidelines and American Disability Act (ADA) design standards and include informal trail consolidation, recognition or decommissioning as determined appropriate from environmental analysis and public feedback, as well as disturbed land restoration along its length.

The Project consists of sections of asphalt concrete trail on grade, asphalt trail on permeable fill/vented trail, and a bridge span over Dollar Creek. Asphalt concrete trail on grade and on permeable fill is 10-feet wide with an additional two (2) feet of clear zone or shoulder on each side of the trail. The bridge span is approximately 100-feet long and between up to 14-feet wide.

Stream Environment Zone (SEZ) impacts have been avoided through the Project design, facility features, and trail location. Environmental analysis estimates total SEZ encroachment, in this case land coverage from the bridge crossing, at 286 square feet, which will require restoration of approximately 430 square feet of Land Capability District (LCD) 1b lands to offset encroachment at a ratio of 1.5 times the total disturbance.

Based on the Tahoe Region Bicycle/Pedestrian Use Model, daily trail usage by bicyclist and pedestrians is expected to be between 233 and 449 users. Detailed discussion of potential trail usage is provided in Chapter 3, Section 3.2.16.

Preliminary field surveys identified trees that must be removed or circumvented to construct the Project. Trees equal to or greater than 30-inches at diameter breast height (dbh) are avoided as required by TRPA regulations by field fitting the shared-use trail during final design and construction.

1.9 SURROUNDING LAND USES AND SETTING

The Project traverses through conservation and recreational land use area designations. Primary uses within and surrounding the project area are residential and undeveloped lands. As shown on Figure 3, the Conservancy and NTPUD own most of the undeveloped areas. Many of the publicly owned parcels contain existing unpaved trails or maintenance roads as shown on Figure 2.

1.10 OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

1.10.1 Project Approvals

The Project requires approval from the following public agencies:

- California Tahoe Conservancy – Bike Trail Easement
- North Tahoe Public Utility District – Bike Trail Easement
- NV Energy (private land owner) – Bike Trail Easement
- California Department of Transportation – Encroachment Permit
- TRPA – Construction Permit and Plan Area Statement (PAS) Amendment

- Lahontan – CWA Section 401 Water Quality Certification; CWA Section 402 NPDES construction permit
- USACE – CWA Section 404 Dredge and Fill Permit
- CDFG – Streambed Alteration Agreement
- County of Placer– Design Review Committee approval and PAS Amendment

As identification of project funding sources occurs, additional agencies may base decisions on this environmental documentation.

1.10.2 Project Entitlements

Beyond permit approvals listed above, no Project entitlements are required of the Project, including TRPA site coverage, commercial floor area, Tourist Accommodation Units, etc.

Figure 1. Project Location

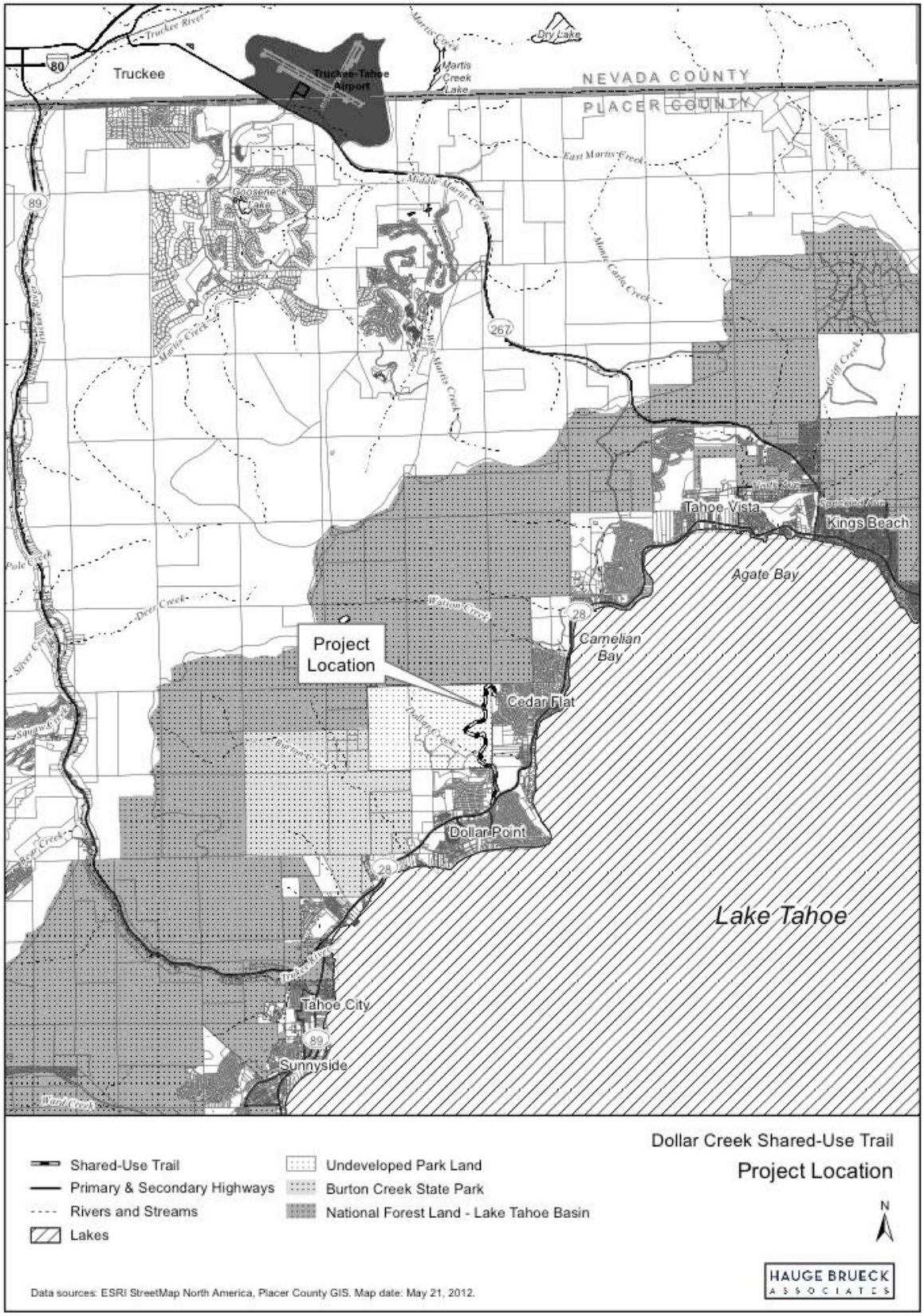


Figure 2. Project Vicinity

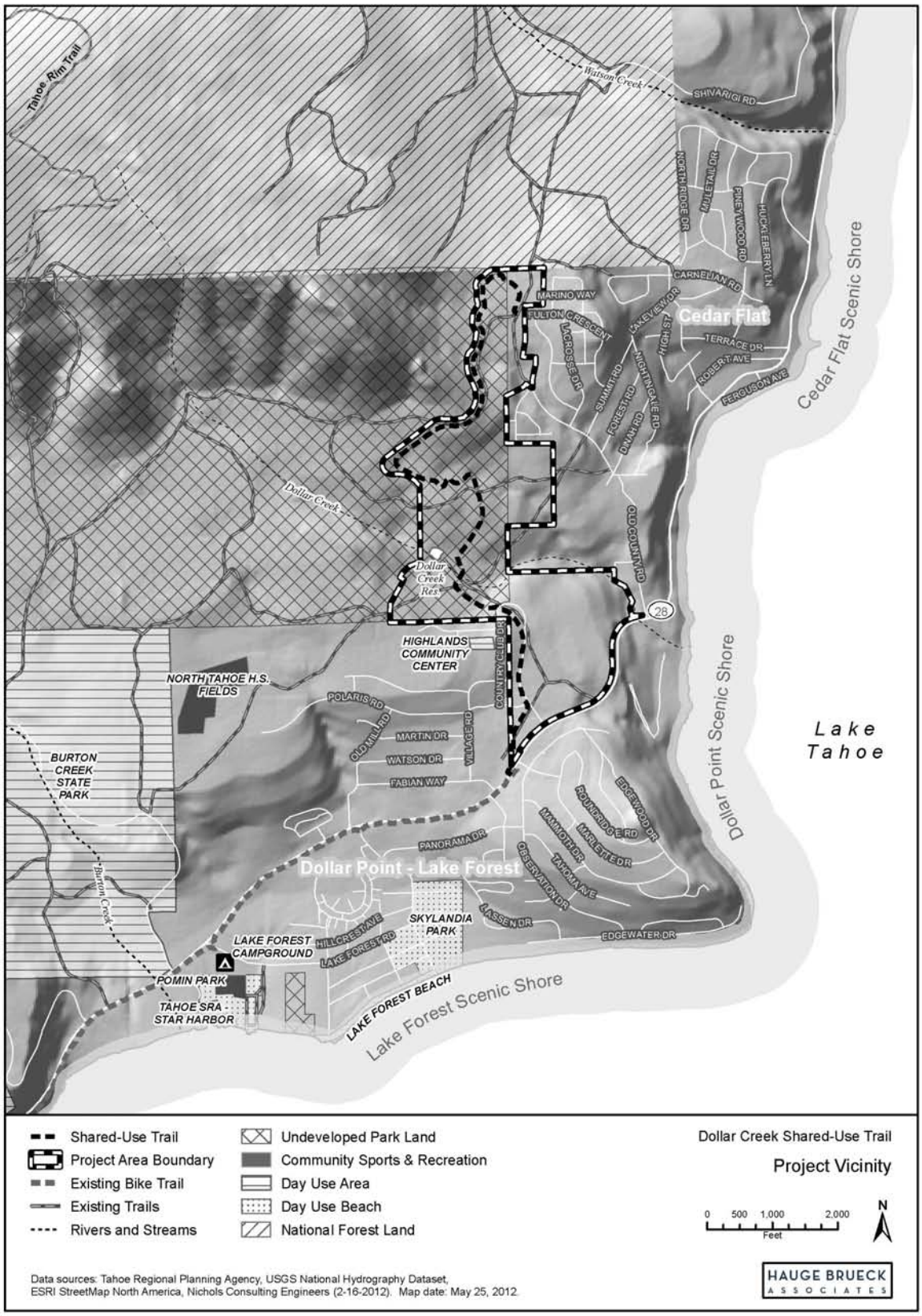
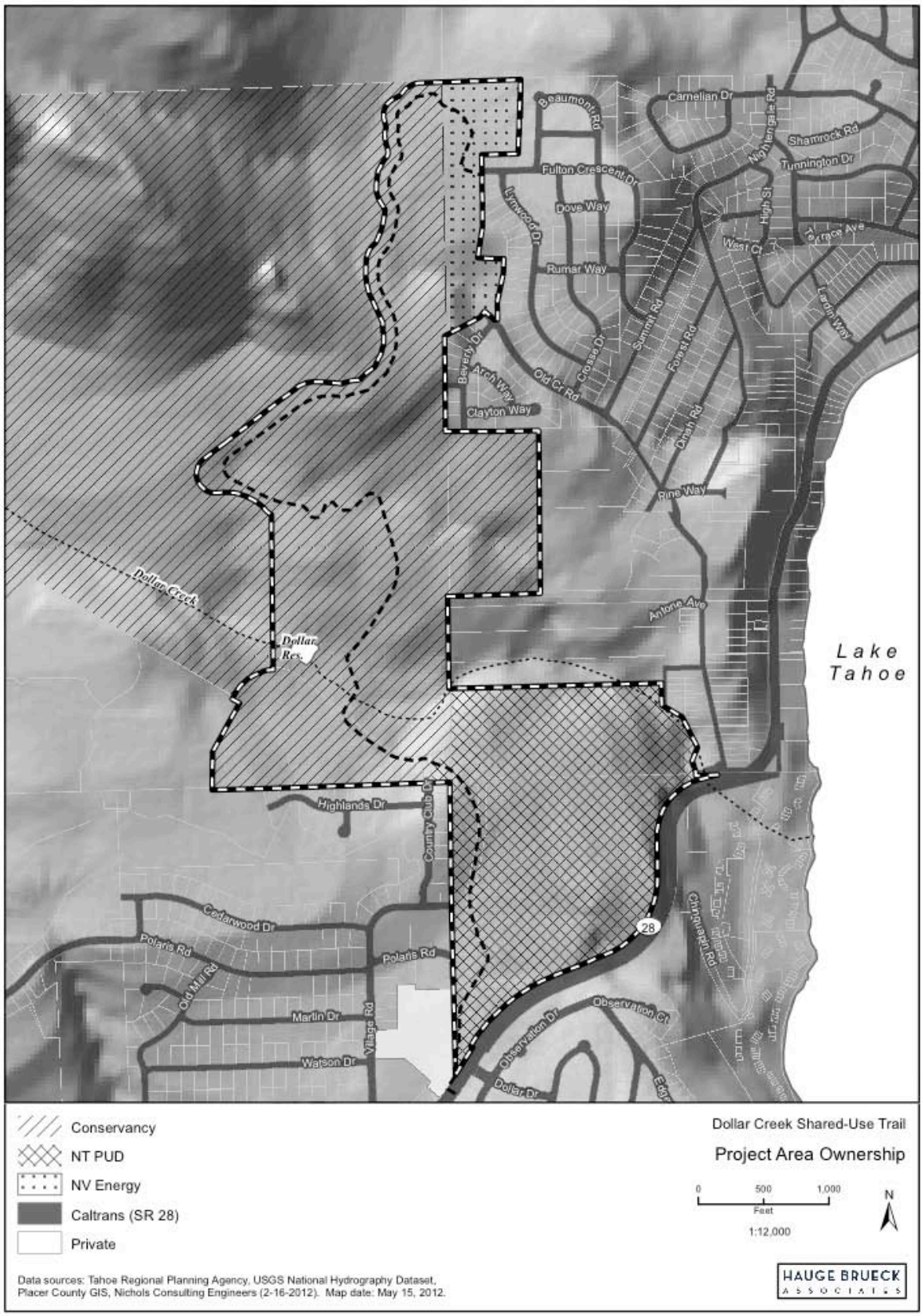


Figure 3. Project Area Ownership



1.11 PUBLIC REVIEW

A formal public review of the Dollar Creek Shared-Use Trail Project IS/IEC is accomplished with the circulation of this document, responses to comments received on this document, and through public hearings held to consider approval of the Project.

The Draft IS/IEC will be circulated for public and agency review from June 5, 2012 to July 6, 2012. An electronic copy of the documents can be downloaded from the County's website at the following address: http://www.placer.ca.gov/Departments/Works/Projects/DollarCreekBikeTrail.aspx.

Paper copies of the document are available for review at the following locations during business hours:

County of Placer
Tahoe Engineering Division
7717 North Lake Boulevard
Kings Beach, CA 96143
(530) 581-6238

Tahoe City Branch Library
740 N. Lake Blvd.
Tahoe City, CA 96145

North Tahoe Public Utility District
875 National Avenue
Tahoe Vista, CA 96148
(530) 546-7249

Tahoe Regional Planning Agency
128 Market Street
Stateline, NV 89499
(775) 588-4547

County of Placer
Community Development Resource Agency
565 West Lake Boulevard
Tahoe City, CA 96146

Kings Beach Branch Library
301 Secline Street
Kings Beach, CA 96143

Comments on this document must be received by 11:59 p.m. on July 6, 2012. Written comments may be sent by postal, electronic mail or fax to:

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1.12 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED/ AREAS OF KNOWN CONTROVERSY

The public input process that preceded preparation of the IS/IEC identified key environmental issues and areas of known controversy. These public comments are a component of the project record. The Project, as proposed and analyzed in this document, considers and responds to public comments received to date. The environmental factors checked below in Table 1 could be affected by the Project and involve at least one potentially "Significant Impact" as indicated by the IS/IEC in Chapter 3.

Table 1

Environmental Factors Considered

Resource Area	Potentially Significant	Not Potentially Significant
Aesthetics / Scenic	X	
Agriculture / Forestry Resources	X	
Air Quality	X	
Biological Resources	X	
Cultural Resources	X	
Geology / Soils / Land	X	
Greenhouse Gas Emissions		X
Hazards / Hazardous Materials	X	
Hydrology / Water Quality	X	
Land Use / Planning		X
Mineral Resources		X
Noise	X	
Population / Housing		X
Public Services	X	
Recreation		X
Transportation / Traffic	X	
Utilities / Service Systems / Energy		X
Mandatory Findings of Significance		X

Source: HBA 2012

1.13 FURTHER INFORMATION

If you have further questions or require additional information regarding the Project, please contact Peter Kraatz. His contact information is:

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1.15 ACRONYMS AND ABBREVIATIONS

AADTs	Annual Average Daily Traffic counts
AASHTO	American Association of State Highway and Transportation Officials
AB 32	California Global Warming Solutions Act of 2006
ACHP	Advisory Council on Historic Preservation
ADA	American Disability Act
ADT	Average Daily Traffic
AF	Acre-Feet
AF/yr	Acre-Feet per Year
ANSI	American National Standards Institute
APCDs	Air Pollution Control Districts
APE	Area-of-potential effect
APN	Assessor parcel number
AQMD	Air Quality Management District

AQP	Air Quality Plan
ARMR	Archaeological Resources Management Reports
ASTM	American Society for Testing and Materials
BAAQMD	Bay Area Air Quality Management District
BAQP	Nevada Division of Environmental Protection - Bureau of Air Quality Planning
Basin Plan	Water Quality Control Plan Report for the North Lahontan Basin
BCT	Best Conventional Pollutant Control Technology
bgs	Below Ground Surface
BLM	United States Bureau of Land Management
BMP	Best Management Practice
Board	Board for Geologists and Geophysicists
BOD	Biological Oxygen Demand
BPMP	Lake Tahoe Regional Bike and Pedestrian Master Plan
BSA	Biological Study Area
CAA	Federal Clean Air Act of 1970
CAAA	1990 Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Cal-SHPO	California State Historic Preservation Officer
Caltrans	California Department of Transportation
CASQA	California Stormwater Quality Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCIC	Central California Information Center
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CDMG	California Department of Mines and Geology
CDMGB	California State Mining and Geology Board
CDPR	California Department of Parks and Recreation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CGS	California Geological Survey
CHL	California Historic Landmarks
CNDDB	California Natural Diversity Database

CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO2	Carbon Dioxide
Code	Code of Ordinances
Conservancy	California Tahoe Conservancy
Cortese List	California's Hazardous Waste and Substance Sites List
County	Placer County
CP	Community Plan
CSAA	Central Sierra Agency on Aging
CSHPO	California State Historic Preservation Officer
CWA	Federal Clean Water Act of 1972
CWC	California Water Code
CWHR	California Wildlife Habitat Relationships
dB	Decibel
dBA	A-weighted decibel
dbh	Diameter at Breast Height
DCP	Dust Control Plan
DEIR	Draft Environmental Impact Report
DPM	Diesel exhaust emissions
DRC	Placer County Development Review Committee
DRI	Desert Research Institute
DTSC	Department of Toxic Substances Control
DVTE	Daily Vehicle Trip Ends
EA	Environmental Assessment
EDR	Environmental Database Resource Report
EIP	TRPA Environmental Improvement Program
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
ERSL	Eastern Regional Sanitary Landfill
ESA	Endangered Species Act or Environmental Science Associates
ESD	Placer County Engineering and Surveying Department
ESCP	Erosion and Sediment Control Plan
Farmland	Farmland of Statewide Importance
FEMA	Flood Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FONSI	Finding of No Significant Impact
Forest Service	United States Department of Agriculture Forest Service
Fossils	Paleontological Resources
FRAP	Fire and Resource Assessment Program
FRAs	Federal Responsibility Areas

FTA	Federal Transportation Administration
GHGs	Greenhouse Gases
H2S	Hydrogen Sulfide
HAPs	Hazardous Air Pollutants
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCM	Highway Capacity Manual
HSC	Health and Safety Code
IBC	International Building Code
IEC	Initial Environmental Checklist
in/yr	Inches per Year
IS	Initial Study
ISA	Initial Site Assessment
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
Lahontan	Regional Water Quality Control Board-Lahontan Region
LCD	Land Capability District
LDM	Placer County Land Development Manual
L_{dn}	Day-night Average Sound Level
Ldn	Day-night Average Sound Level
L_{eq}	Energy Equivalent Sound Level
Leq	Energy Equivalent Sound Level
LEO	Law Enforcement Officer
LOS	Level of Service
LP	Land Preserve
LRAs	Local Responsibility Areas
LTBMU	USDA Forest Service Lake Tahoe Basin Management Unit
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
mg/L	Milligrams per Liter
mg/L^3	Microgram per Cubic Liter
mg/L3	Microgram per Cubic Liter
Mgal/yr	Million Gallons per Year
mgd	Million Gallons per Day
Mitigated Neg Dec	Mitigated Negative Declaration
MLD	Most likely descendant
Mmax	Maximum Moment Magnitude
MMI	Modified Mercalli Intensity
MMP	Mitigation and Monitoring Program
MND	Mitigated Negative Declaration
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding

MPN	Most Probable Number
MPO	Metropolitan Planning Organization
MRF	Materials Recovery Facility
msl	Mean sea level
MUTCD	California's Manual Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NCR	Neighborhood Compatibility Review
Neg Dec	Negative Declaration
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NFL	National Forest Lands
NFS	National Forest System
NHPA	National Historic Preservation Act
NO2	Nitrogen Dioxide
NOA	Naturally Occurring Asbestos
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOD	Notice of Determination
NOI	Notice of Intent
NOP	Notice of Preparation
NOT	Notice of Termination
NOX	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System permit program
NRHP	National Register of Historic Places
NTFPD	North Tahoe Fire Protection District
NTPUD	North Tahoe Public Utility District
NWP	Nationwide Permit
NWRA	Noxious Weed Resource Assessment
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OMMS	Operations Management and Maintenance Strategy
OPR	California Governor's Office of Planning and Research
OS	Open Space
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PAOTs	Persons at One Time
PAS	Plan Area Statements
Pb	Lead
PCAPCD	Placer County Air Pollution Control District

PCSD	Placer County Sheriff's Department
PD	Planned Development
PGA	Peak Ground Acceleration
PM10	Particulate Matter Less than 10 Microns in Diameter
PM2.5	Particulate Matter Less than 2.5 Microns in Diameter
PPM	Parts per Million
PPV	Peak Particle Velocity
PRC	Public Resource Code
PRD	Project Registration Documents
Project	Dollar Creek Shared-Use Trail Project
PSD	Prevention of Significant Deterioration Program
psi	Pounds per square inch
QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Practitioner
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
RESD	Real Estate Services Division
ROD	Record of Decision
ROG	Reactive organic gases
ROS	Recreation Opportunity Spectrum
ROW	Rights-of-Way
RR	Rural Route
RRPs	Revegetation and Restoration Plans
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Boards
SCH	State Clearing House
SEZ	Stream Environment Zones
SH	Scenic Highway
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SNFPA	Southern Nevada Forest Plan Amendment
SMARA	Surface Mining Reclamation Act of 1975
SO2	Sulfur Dioxide
SQIP	Scenic Quality Improvement Program
SR	State Route
State Board	California State Water Resources Control Board
STR	South Tahoe Refuse Company
Superfund	Superfund Amendment and Reauthorization Act of 1986
SWPPP	Storm Water Pollution Prevention Plan
TAC	Toxic air contaminants
TCORP	Tahoe Coalition of Recreation Providers
TCP	Traffic Control Plan
TCPUD	Tahoe City Public Utility District

Thresholds	TRPA Environmental Carrying Capacity Thresholds
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TMPO	Tahoe Metropolitan Planning Organization
TP	Total Phosphorus
TRPA	Tahoe Regional Planning Agency
TTSD	Tahoe Truckee Sierra Disposal Company
UBC	Uniform Building Code
USA	Underground Service Alert
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	USDA Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMT	Vehicle Miles of Travel
VQO	Visual Quality Objectives
WBS	Western Botanical Services, Inc.
WDR	Waste Discharge Requirements
WQM	Water Quality Memorandum
WQO	Water Quality Objective
WUI	Wildland-Urban Interface
µg/m3	Microgram per Cubic Meter
µg/m3	Microgram per Cubic Meter

2.0 PROJECT DESCRIPTION

This chapter describes the *Dollar Creek Shared-Use Trail Project* (Project). Sections 2.1, 2.2 and 2.3 describe the project background, previous public involvement, and anticipated future environmental process and review, respectively. Section 2.4 details the project objectives and sections 2.5 through 2.7 detail the various components of the Project including facility features and construction controls, revegetation and restoration strategies, water quality best management practices (BMPs), and operations, maintenance and monitoring plan.

2.1 PROJECT BACKGROUND

2.1.1 Summary of Past Studies

The current Project is the western most end of an approximately eight-mile long North Tahoe Bike Trail corridor identified by the TRPA to link Tahoe City to Kings Beach, California. TRPA identified the trail corridor with its adoption of the Regional Goals and Policies Plan (1987), Regional Transportation Plan (RTP) (TRPA/TMPO 2008) and Air Quality Plan (AQP) (1999 and 2003), Environmental Improvement Program (EIP) (2001) and Lake Tahoe Regional Bicycle and Pedestrian Master Plan (BPMP) (TMPO 2010).

During past study of the North Tahoe Bike Trail corridor, lead agency staff considered many different trail alignments, trying to identify the best transportation/recreation route with the fewest conflicts. Determinations for reasonableness considered compliance with Caltrans Class 1, AASHTO and ADA standards, presence of stream environment zones (SEZ) and other sensitive lands, existing land use patterns, existing transportation links, public health and safety considerations, economic feasibility and recent regional planning activities in the context of the objectives and purpose and need of the Project. Of the various trail alignments studied in the past, it's important to note why an alignment located adjacent to SR 28 was previously rejected from further consideration. The reasons included displacement of existing parking, encroachment onto private driveways, substantial tree removal and the need for retaining walls, steep grades, and utility displacement. The reasons for elimination in 1990 are still applicable, and serve as justification for why a SR 28 alignment was not further studied as part of this analysis.

2.1.2 Land Ownership

The shared-use trail alignment being analyzed traverses primarily through NTPUD and Conservancy ownerships. The majority of these lands were acquired as part of two key land acquisitions: the Firestone Acquisition and the Dollar Estate Acquisition.

Firestone Acquisition. In June 1988, the Conservancy Board authorized an Acquisition Grant in the amount of $1.186 million dollars to NTPUD in an action entitled "North Tahoe Bike Trail Acquisition Project." The purpose of the acquisition was to secure the right-of-way necessary to allow construction of an approximately "12-foot wide paved path" with two-foot wide shoulders on either side. NTPUD would own and manage the acquired land (and ultimately maintain the future site improvements for which the acquisition was authorized). Until the trail improvements are installed, the property is maintained as open space, except as authorized by the Conservancy Board. Similarly, no interest in the property can be transferred without the consent of the Conservancy Board. Additional conditions of the grant require NTPUD to assume all management, operations and maintenance costs of this and future projects involving the property.

Dollar Estate Acquisition. In May 1989, the Conservancy Board authorized acquisition of 940 acres of land comprised of 11 parcels known as the Dollar Estate. The expenditure of $3.225 million dollars not

only preserved much of the watershed but also provided opportunities for passive and active recreation uses on the site. The staff recommendation presented to the Conservancy Board when they authorized acquisition stated: "The North Tahoe Bicycle Trail acquisition grant funded by the Conservancy in June 1988 identifies the property as a possible site for construction of the bike trail… If the bike trail is implemented in this location, the Conservancy could realize cost savings on its grant since the property will already be in State ownership."

The staff recommendation also noted the opportunity to integrate Burton Creek State Park uses with the Dollar Property, as discussed further in the Burton Creek State Park Master Plan (California State Parks 2005).

2.1.3 Previous Environmental Documentation – Placer County

The County has determined that an Initial Study (IS) shall be prepared in order to determine whether the potential exists for unmitigatable impacts resulting from the proposed Project. Relevant analysis from the County-wide General Plan and Community Plan Certified EIRs, and other project-specific studies and reports that have been generated to date, were used as part of the database for the Initial Study. The decision to prepare the Initial Study utilizing the analysis contained in the General Plan and Specific Plan Certified EIRs, and project-specific analysis summarized herein is supported by Sections 15168 and 15183 of the CEQA Guidelines.

Section 15183 states that "projects which are consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified shall not require additional environmental review, except as may be necessary to examine whether there are project-specific significant effects which are peculiar to the project or site." Thus, if an impact is not peculiar to the project or site, and it has been addressed as a significant effect in the prior EIR, or can be substantially mitigated by the imposition of uniformly applied development policies or standards, then additional environmental documentation need not be prepared for the project solely on the basis of that impact.

Section 15168 relating to Program EIRs indicates that where subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity, to determine whether the environmental effects of the operation were covered in the earlier Program EIR. A Program EIR is intended to provide the basis in an Initial Study for determining whether the later activity may have any significant effects. It can also be incorporated by reference to address regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.

The following documents serve as Program-level EIRs or EIRs prepared for similar actions:

- County-wide General Plan EIR
- Community Plan EIR
- Specific Plan Zoning EIR
- 1990 North Tahoe Bike Trail EIR/EIS

The above stated documents are available for review Monday through Friday, 8am to 5pm, at the Placer County Community Development Resource Agency public counter, 3091 County Center Drive, Auburn, CA 95603.

2.2 PUBLIC INVOLVEMENT

Placer County staff hosted public input opportunities and solicited written comments related to the Project. The public scoping processes involved public notice to nearby residents and other interested individuals and organizations. Public and agency comments received during these input opportunities drove project revisions and directed elements of the environmental review process. The County set up a web site to post project plans, requests for public comment and other correspondence related to the Project (http://www.placer.ca.gov/Departments/Works/Projects.aspx).

Placer County conducted Information Open House meetings for the Project on October 4 and October 18, 2011 at the North Tahoe Event Center. The purpose of the meetings was to share information about the preliminary Project design and environmental analysis process, as well as to receive public feedback. Five and 52 members of the public and agency representatives, respectively, attended the meetings.

While there was no legal requirement to conduct public meetings for this Project, Placer County sought to engage with the local community early in the planning process. Meeting notices were mailed to owners of the 298 residences located within 1,000 feet of the Project area. In an effort to get meeting information to non-owner tenants, planning staff also hand-delivered notices to residents of the Highlands and Cedar Flats neighborhoods. In addition, the Sierra Sun published information on the Project in their October 14, 2011 weekend edition.

As a result of public scoping efforts, 32 commenters submitted approximately 150 individual comments and questions pertaining to the following general topics:

- General support for, or opposition to, the Project;
- Questions about the Project description, design, and operation (e.g., handicap accessibility, trail dimensions and alternative designs, and questions about whether bathrooms will be provided, trash pickup, and the like);
- Questions regarding the proposed trail location within the Project area and suggestions for potential neighborhood connectors (e.g., concern about trail location through bouldering site, proximity to houses, location of paved trail over existing unpaved trails) and the need for connectivity between north shore communities and Tahoe City;
- Questions about the trail alignment (e.g., origination and ending points; why isn't the trail located along SR 28);
- Questions about the larger user group (type of rider or pedestrian) who uses shared-use trails;
- Questions about Project funding sources and the type and availability of funding (e.g., where will the funding come from, how much will the Project cost and should the money be used for other public needs, long-term maintenance costs);
- Concerns regarding potential Project impacts, both construction and operations: grading; impacts to flora, fauna and habitats (e.g., presence of unique plants, habitat loss for wildlife); impacts to existing recreation (e.g., cross-country ski center, bouldering area, mountain biking, dog walking); and impacts to public safety and neighborhood compatibility (e.g., access by motorized vehicles, user conflicts, trail steepness and grade, vandalism and littering in adjacent neighborhoods); and

- Request for clarification on the location of the proposed trailhead parking area and parking impacts (e.g., concerns about existing parking along Fulton Crescent and the potential for Project to increase cars/traffic in neighborhood, access through private property).

2.3 FUTURE ENVIRONMENTAL PROCESS AND REVIEW

This IS/IEC meets the requirements of CEQA and the TRPA Rules of Procedures and Code of Ordinances. This environmental document serves as a joint document to meet the environmental review requirements of CEQA for the County, Conservancy, Lahontan, CDFG and NTPUD and the Tahoe Regional Planning Compact for the TRPA. Each agency will use the document to make decisions based on the respective agency's planning policies and statutory requirements. Sections 1.1.1, 1.1.2 and 1.1.3 in Chapter 1 detail agency roles, policies, and decision responsibilities.

2.4 PROJECT PURPOSE

The purpose of the Project is to complete an accessible and continuous shared-use trail that establishes a convenient non-auto transportation alternative and high quality recreational experience for residents and visitors.

Given that the Lake Tahoe north shore roadway network suffers from excessive traffic congestion and a resultant degradation of air quality, there is a need for expansion, upgrade and connectivity to the existing bike trail system. Areas in North Lake Tahoe lack continuous paths for bicycles and pedestrians that provide high quality non-motorized transportation and recreational opportunities. Regional planning documents (e.g., TRPA/TMPO RTP and Goals and Policies) identify the important role that improvements to the bicycle and pedestrian trail network play in addressing these problems. The introductory paragraph of the BPMP Executive Summary dated 2010 states:

"Lake Tahoe communities have identified biking and walking opportunities as critical components of a well-rounded transportation system. A strong bicycle and pedestrian network draws people out of their cars, in turn boosting the economy, improving air quality, and creating attractive, healthy communities. Connected bicycle paths, sidewalks, and transit are the backbone of a people-oriented transportation system that supports neighborhoods, commercial districts, and recreation areas. This connected transportation system that centers on non-motorized travel will also help Lake Tahoe meet Tahoe Regional Planning Agency environmental thresholds and greenhouse gas reduction targets."

Local jurisdictions and State agencies have identified 162 miles of new infrastructure necessary for a complete bicycle and pedestrian network. The Dollar Creek Shared-Use Trail Project is an extension of the existing multi-use trail that ends immediately west of Dollar Drive and also an independent 2.2-mile section of the North Tahoe Bike Trail Project proposed to connect Dollar Hill to the North Tahoe Regional Park in Kings Beach, California, which the BPMP (TMPO 2010) identifies as one of the 12 highest priority network facilities to close gaps, attract high use and address Vehicle Miles Traveled (VMT), provide multi-model connections, and improve public safety. The Project purpose aligns with the vision of North Shore communities as quoted above.

2.5 PROJECT AREA

Figure 1 in Chapter 1 presents the regional location map and Figure 2 illustrates the general location of the project area and Project alignment in the northern portion of the Lake Tahoe Basin. The TRPA revised Code of Ordinances (revised Code) Subsection 30.3.C.2 establishes procedure for determination of project area. The Code requires incorporation of the entire area for each assessors parcel number (APNs) for parcels less than 20 acres, as outlined in revised Code Subsection 30.3.C.2(a)(i) and a portion

of APNs or other lands larger than 20 acres based on factors outlined in Code Subsection 30.3.C(2)(a)(ii). These factors include:

- The area impacted by or the sphere of influence of the Project;
- The area to be actually used for the Project;
- Whether the Project is located in one or more hydrologically-related areas; and
- The extent of land coverage and land disturbance for the Project.

Revised Code Subsection 30.3.C.2(a)(iii) states that for a project on or comprising two or more contiguous parcels, the project area shall be the total combined square footage of the parcels, provided the parcels are permanently consolidated. If the parcels are not permanently consolidated, the owner shall record against the parcels a deed restriction or other covenant running with the land permanently assuring that the land coverage calculations for the parcels shall always be made as if the parcels had been legally consolidated. Considering the requirements above, the Conservancy, County and TRPA agree to define the project area as determined by the criteria listed below.

- Include the entirety of each APN that the main trail and neighborhood connections cross for Conservancy, NTPUD and NV Energy parcels smaller than 20 acres.
- For the one (1) Conservancy parcel over 20 acres in size in the western project area, the project area includes a 200-foot wide corridor following the main trail (i.e., 100-feet on each side of trail from the centerline).
- Where the shared-use trail enters public roadway ROWs, define the project area very narrowly to include only new trail facility features. For land coverage calculation, assume parcels are at or over allowed land coverage. Calculate coverage requirements separately for the ROW segment, assuming that required coverage is to be transferred. In this way, the project area is continuous, although this section of the project area does not contribute base allowable land coverage for calculation purposes.

2.6 PROJECT DESCRIPTION

The Project constructs a paved 10-foot wide and 2.2-mile long (11,825 linear feet) shared-use trail through lands commonly known as the Dollar and Firestone properties and extends the existing TCPUD multi-use trail, which currently ends near the intersection of Dollar Drive and SR 28, to the end of Fulton Crescent Drive. Figure 4 depicts the proposed shared-use trail alignment and illustrates the features found within the project area and immediate vicinity. Approximately 8,190 linear feet of shared-use trail lies within Conservancy-owned parcels, 2,455 linear feet within NTPUD parcels, 790 linear feet within a NV Energy parcel, 135 linear feet within Caltrans SR 28 ROW, and up to 255 linear feet within a private parcel near SR 28, as dependent on final boundary line survey results.

The Project transects portions of Assessor's Parcel Numbers (APNs) 092-010-021, 092-010-023, 092-010-033, 092-010-034, 092-010-035, 092-010-039, 092-010-040, 092-010-041, 092-010-042, 092-240-021, 093-010-037, 093-010-038, and 93-010-039. With one exception at the Dollar Creek crossing where the trail crosses a mapped SEZ, the shared-use trail is located on Class 4 and Class 6 land capability districts (LCD) that permit new outdoor recreational development. The Project, including the optional trailhead parking lot and access roadway, requires a total of 182,565 square feet of land coverage, of which approximately 16,875 square feet aligns over verified existing land coverage and 165,690 square feet is new land coverage. Where possible, the shared-use trail alignment follows existing unpaved trails and roads found within the project area. The amount of new land coverage within LCD 4 and 6 is well below the maximum land coverage allowed by TRPA codes and does not require land coverage relocation or transfer from offsite parcels. A minor quantity of on-site LCD 1b (SEZ) restoration will be performed as part of project implementation to offset new disturbance for the Dollar Creek bridge crossing.

Figure 4. Shared-Use Trail Alignment

The Project constructs a shared-use trail, defined by the TRPA as a linear public facility "transportation route". Two of the three Plan Areas bisected by the Project include "transportation route" as a permissible use. Plan Area 013 (Watson Creek) does not include "transportation route" in the list of permissible uses. As such, the Project proposes the amendment of TRPA and Placer County Plan Areas 013 to add "transportation route" to the list of permissible uses. The use will be added to a newly created Special Area 1 that follows the Project Area boundary within PAS 013 (please see Figure 21).

The Project includes the following facility features:

- A shared-use trail crossing of SR 28 just west of Dollar Drive that includes a raised median with seasonal pedestrian/bicyclist refuge island;
- 11,425 linear feet of 10-foot wide asphalt concrete trail constructed at grade (Figure 5);
- 200 linear feet of 10-foot wide asphalt concrete trail constructed on permeable fill/vented trail (Figure 6);
- 100 linear feet of Bridge Span across the Dollar Creek channel, stream environment zone (SEZ) and SEZ setback;
- 100 linear feet of 6-foot wide asphalt concrete neighborhood connector at the end of Fulton Crescent Drive;
- 2-foot wide clear zones that parallel each side of the asphalt concrete shared-use trail;
- Up to 13 transition aprons connecting the asphalt concrete shared-use trail to existing unpaved trails;
- Up to 13 culverts to convey surface runoff under the shared-use trail;
- Trail access controlled by boulders, user management fencing and/or removable bollards;
- Approximately 7,550 cubic yards of revegetated cut slopes and 1,725 cubic yards of fill slopes required to construct the asphalt concrete shared-use trail;
- Approximately 111,600 square feet of revegetated temporary disturbance associated with cut and fill slopes along the shared-use trail corridor, up to 1,100 linear feet of construction access roadway, 2 construction staging areas (one near SR 28 and one near end of Fulton Crescent Drive) and 7 hammerhead turnarounds (spaced throughout the trail corridor for use by construction equipment);
- Tree removal within paved trail areas and cut and fill slopes;
- Wayfinding, mileage markers and other optional signage; and
- Optional Project Component: A 19,914 square foot trailhead parking facility accessed from the SR 28 and Dollar Drive intersection accommodating up to 24 vehicular spaces.

Subsections 2.6.1 through 2.6.4 describe the individual components of the Project including trail alignment, facility features and construction controls, revegetation and restoration strategies, trail decommissioning and BMPs, and connectivity to existing trails, neighborhoods and other land uses.

2.6.1 Shared-Use Trail Alignment Description

The trail begins at the termination of the existing TCPUD multi-use trail near the intersection of Dollar Drive and SR 28. The Project starts with a crossing of SR 28 between the Dollar Drive and Fabian Way intersections (at a point just east of the 7-Eleven convenience store). Section 2.6.2.7 describes the SR 28 crossing in greater detail.

After crossing SR 28, the trail alignment crosses the Caltrans ROW to the northeast, passes behind a recently constructed bus shelter, and follows the NTPUD property line northerly along existing unpaved roadways and trails. Existing unpaved trails connect the proposed shared-use trail to the residential neighborhood located to the west. Near the end of Country Club Drive, the trail alignment heads northwest within Conservancy-owned lands along an existing unpaved roadway that parallels Dollar Creek to the south. The trail alignment turns north at a point where the existing unpaved road becomes too steep for a paved shared-use trail and crosses Dollar Creek (approximately 450 feet downstream of Dollar Reservoir) using an approximately 100-foot long bridge span.

North of the Dollar Creek trail crossing, the trail alignment follows contours in a northerly direction and uses several switch backs to climb a hillside to intersect an existing unpaved trail located to the west of Beverly Drive and the termination of Old County Road. This middle portion of the trail alignment crosses several existing unpaved trails that run in an east-west orientation, but does not follow existing trails because none currently exist. The remainder of the trail alignment (northerly portion) follows an existing unpaved trail with one exception where the shared-use trail veers to the west of the existing dirt trail to avoid a mapped SEZ. The northern terminus of the shared-use trail alignment follows an existing unpaved trail to the east (south of National Forest Lands) and then south parallel to a public roadway (Road 16N74) that provides seasonal access (June 1 to November 1) to National Forest Lands from the terminus of Fulton Crescent Drive. This portion of the trail is located on NV Energy lands located just west of the end of Fulton Crescent Drive.

2.6.2 Facility Features and Design

The Project incorporates the facility features and design presented below as determined by site-specific characteristics. Figures 5 through 15 illustrate design details for trail construction in different settings.

2.6.2.1 Design Objectives

The design objectives of the Project shared-use trail include:

- Meeting AASHTO guidelines;
- Meeting ADA standards;
- Maximizing use of existing land coverage and disturbance as consistent with environmental constraints;
- Enhancing public access to recreational facilities and non-motorized transportation alternatives;
- Considering non-motorized winter uses of the project area;
- Meeting the goals of adopted Regional Plans and Burton Creek State Park Master Plan;
- Minimizing conflicts between bicycles, pedestrians, and automobiles; and
- Minimizing environmental disturbance, especially in SEZs.

2.6.2.2 Shared-Use Trail Grades and Slopes Criteria and Standards

The following facility features and construction controls serve to meet AASHTO guidelines and ADA standards:

- Minimum 10-foot wide asphalt concrete path (Note: Although ASSHTO provides for a range of trail widths, the Project proposes a 10-foot wide paved path in most locations to reduce land coverage associated with the project area and to provide a path that fits better with the non-urban project setting. Predicted use in the proposed segments, including the diversity of user groups and the total volume of use, preclude narrowing the trail width beyond the minimum standard of 10-feet.);
- 2-foot wide clear zone or shoulder on each side of the asphalt concrete path with maximum side slopes of 5%;
- Clear zones are maintained free of trees, poles, walls, fences, guardrails, and other lateral and vertical obstructions, which may be vegetated with ground cover and low lying shrubs;
- Minimum 5-foot separation from the edge of path to canals, ditches, or slopes steeper than 1:3 or 33%;
- Grades kept to a minimum and include:
    - Generally less than 5% to keep the trail useable for a wide variety of cyclists;
    - Where grade must exceed 8.33%, resting areas such as pull-offs or a wider path are incorporated; and
    - Where grade must exceed 5%, the maximum running length for the specified grade distance meets ASSHTO guidelines.

2.6.2.3 Shared-Use Trail Surface Proposals

The primary shared-use trail surface includes an asphalt concrete trail on grade that is 10-foot wide with 2-foot wide clear zones on each side of the asphalt concrete path, as depicted in Figure 5. Trail design in wet areas correspond to site-specific conditions, as described and illustrated below.

<u>Design Option 2 (Raised Asphalt Trail on Permeable Base Material/Vented Trail).</u> Design Option 2 includes asphalt concrete pavement with permeable base where subsurface hydrologic conditions produce long periods of dry surface soils but where surface drainage could be affected by the trail alignment during wet conditions (Figure 6). This design option maintains the trail standards necessary to encourage the widest range of user groups, while avoiding or greatly minimizing impacts to sensitive soil areas with the use of permeable base material that allows for continuation of existing drainage patterns.

Figure 5. 10-Foot Wide Asphalt Concrete Trail on Grade

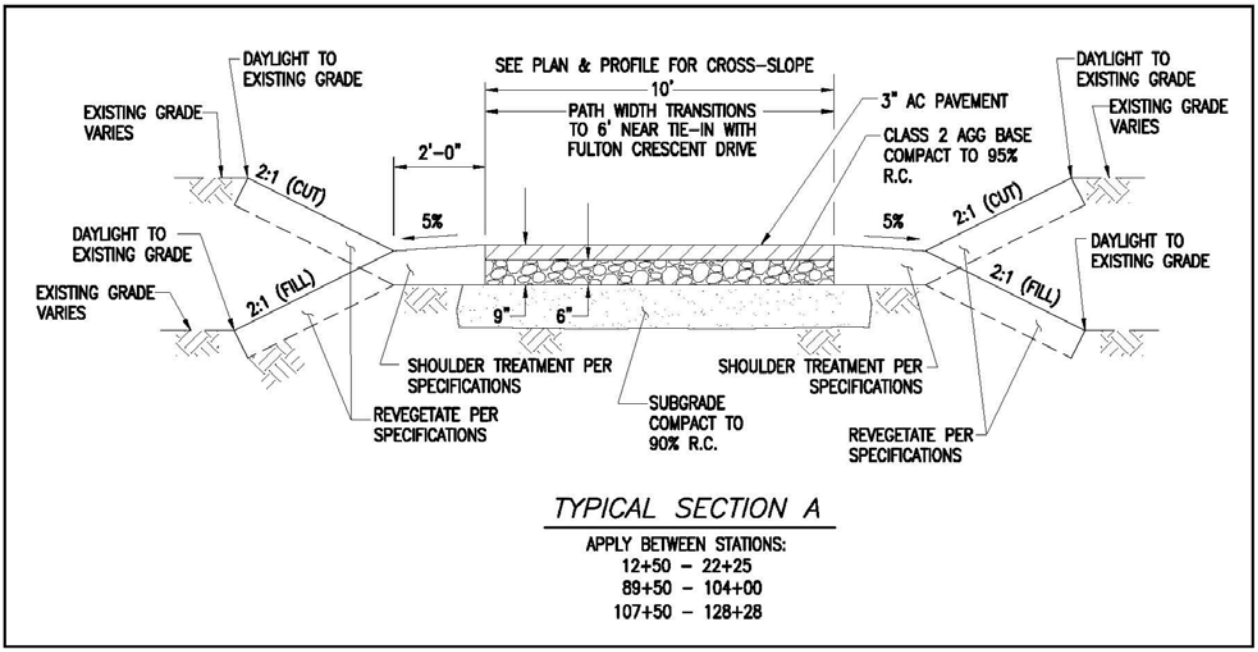
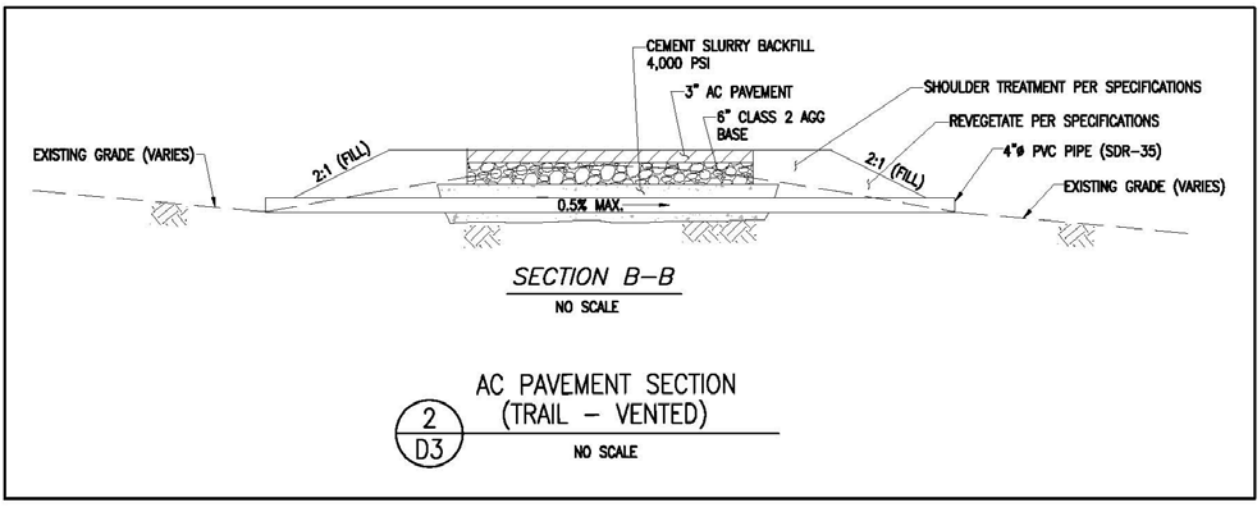


Figure 6. 10-Foot Wide Asphalt Concrete Trail on Permeable Fill/Vented Trail



2.6.2.4 Neighborhood Connections

Neighborhood connections comply with the development standards listed below:

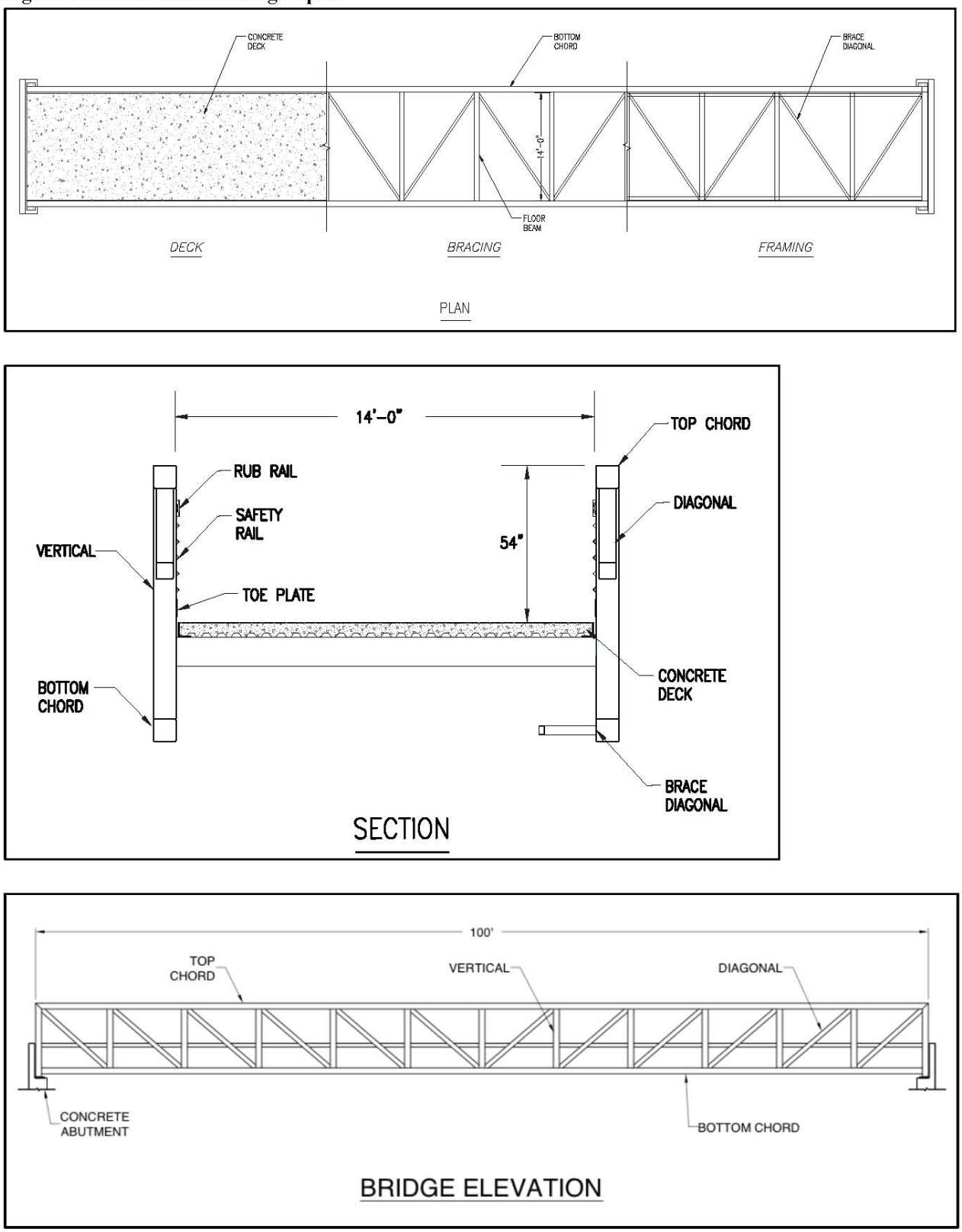
- Utilize existing, well-defined, user created access points (e.g., unpaved trails connecting to Polaris Road, Country Club Drive and Old County Road).
- Neighborhood connections provide easy trail access for nearby residents.
- Access to neighborhoods can be unpaved, utilizing existing user created trails. Necessary BMP upgrades may occur on unpaved trails used for neighborhood connection to reduce impacts on natural resources.

2.6.2.5 Stream Environment Zones and Creek Crossings

Project construction generally avoids direct impacts to SEZ and adheres to the following list of construction techniques and facility features in the vicinity of SEZs as determined by site-specific conditions (see above for detailed description).

- Minimize length of trail in designated SEZ.
- Maximize use of existing land coverage or disturbance.
- Use raised asphalt concrete trail on permeable fill/vented trail in areas that exhibit SEZ vegetation types but not near surface groundwater conditions (See Design Option 2 – Figure 6).
- Install a 14-foot wide bridge with safety rail at the Dollar Creek crossing, a few hundred feet downstream from Dollar Reservoir where the creek channel and SEZ narrows. Figure 7 illustrates the general features of bridge design. Engineering design of this bridge during construction plan preparation will consider: 1) establishing maximum deck elevation and setting support locations to avoid impeding flood flows; 2) bridge support design to minimize SEZ and wetland disturbance; and 3) ADA requirements. A bridge span of approximately 100 feet supported by pier or piling footing design is expected to meet this criteria. At either end of the bridge, the trail transitions to asphalt concrete trail that begins outside of the delineated SEZ and SEZ setback.

Figure 7. Dollar Creek Bridge Span



Source: NCE 2012

2.6.2.6 Hillside Construction

The construction techniques listed below apply to portions of the trail built on hillsides:

- Focus on fitting the trail to the natural slope alignment;
- Traverse hillsides in order to minimize steep trail grades;
- Minimize cut and fill slopes as much as possible in order to reduce construction impacts and visual scarring;
- Utilize natural revegetation specifications for fill and cut slopes where possible (see sheet D4 in Appendix C); and
- Install retaining walls or other armoring in key areas to reduce the size of cut and fill slopes.

2.6.2.7 SR 28 Crossing

The Project employs the following techniques for the SR 28 crossing:

- Locate the marked crossing of SR 28 west of established intersection of Dollar Drive and SR 28 at mid-block location to minimize vehicle and pedestrian/bike conflicts (see Figure 8). Conclusions from the Traffic Gap Study (Appendix A) indicate that simply striping a crosswalk at the SR 28 and Dollar Drive intersection would not provide adequate crossing conditions for bicyclists and pedestrians;

- Provide a pedestrian refuge using flexible delineators in accordance with the *California Manual on Uniform Traffic Control Devices* (MUTCD) arranged in an isosceles triangle pattern on either side of the crosswalk;

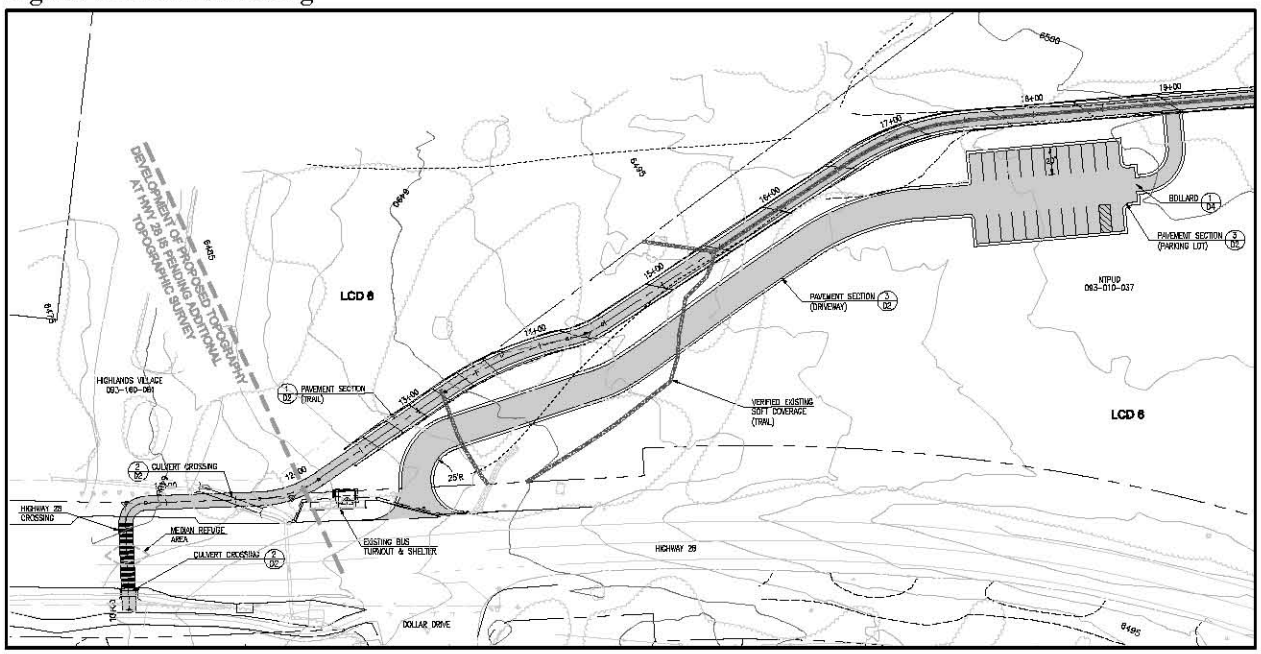
- Use supplemental advanced warning signs, yield pavement markings with “Yield here to pedestrians” signage and location warning signs;

- Place advanced warning signs approximately 300 feet in advance of the crosswalk in each direction, in accordance with the *California MUTCD*; and

- Place supplemental push-button activated Rectangular Rapid Flashing Beacons located in conjunction with the crosswalk location signs (the push-buttons will include appropriate signage instructing users of their operation functions).

Installation of the raised median crossing described above allows for a two-stage crossing with trail users needing to observe gaps in one stream of traffic at a time. Eight seconds would be required to cross each travel lane. Southbound trail users would be able to see gaps up to 9.5 seconds, while northbound users would be able to see gaps up to 8.7 seconds. Adequate site distances are provided to enable trail users to judge adequate gaps at this location. The final crosswalk designs will meet ADA access and audible/tactile standards as appropriate.

Figure 8. SR 28 Crossing



Source: NCE 2012

2.6.2.8 Signage

The Project relies on education and interpretation as a first means of resource protection and public safety. Directional or wayfinding signage to specifically designated access areas decreases the pressure to develop new informal unpaved trails. Interpretive signage improves compliance with these directions and enhances the sense of stewardship of trail users. Mileage markers provide a sense of distance and trail map location. The County recognizes the abilities of strategic sign placement to direct most users as well as the limitations of this approach in high use or particularly sensitive areas. Final design plans will include signage details such as size, color, placement, and text.

Shared-use trails like the Project require the proper use of signage and striping to meet applicable design standards (e.g., AASHTO). Striping the center of the trail alignment will separate direction of travel and reduce user conflicts. Signage planned for the Project shall include:

- Signage for public safety and crosswalk identification, including notice about trail grade changes and approaching roadway crossings; and
- Mileage markers or other wayfinding signage along the shared-use trail to provide users with information necessary to direct emergency response personnel in the event of an emergency.

Additional signage for the Project may include:

- Limited signage for interpretive opportunities, including natural communities, historical sites of interest, and cultural landscapes;
- Signage for restoration and revegetation areas, including both interpretive and regulatory;
- Signage for appropriate trail use and the need to stay on designated paths, including stewardship, Safe Speeds and Yield to Wheels (to reduce user conflicts); and

- Recommended use signs at neighborhood access points if necessary to reduce neighborhood conflicts.

Project signage shall conform to the TRPA Code as well as the TRPA Design Review Guidelines (i.e., Appendix E of the TRPA Guidelines), which provide guidance for signage content, sizing, and placement. As stated in the Guidelines, metal signs are acceptable if sized, located, and painted appropriately to blend into the surrounding environment. In addition, the Placer County Design Review Committee (DRC) will review the final signage design to ensure compliance with County wayfinding and other criteria.

2.6.2.9 Physical Barriers, Screening and Emergency Access Control

The project installs physical barriers in sensitive areas (e.g., SEZs, creek crossing) and areas adjacent to roadways that may involve:

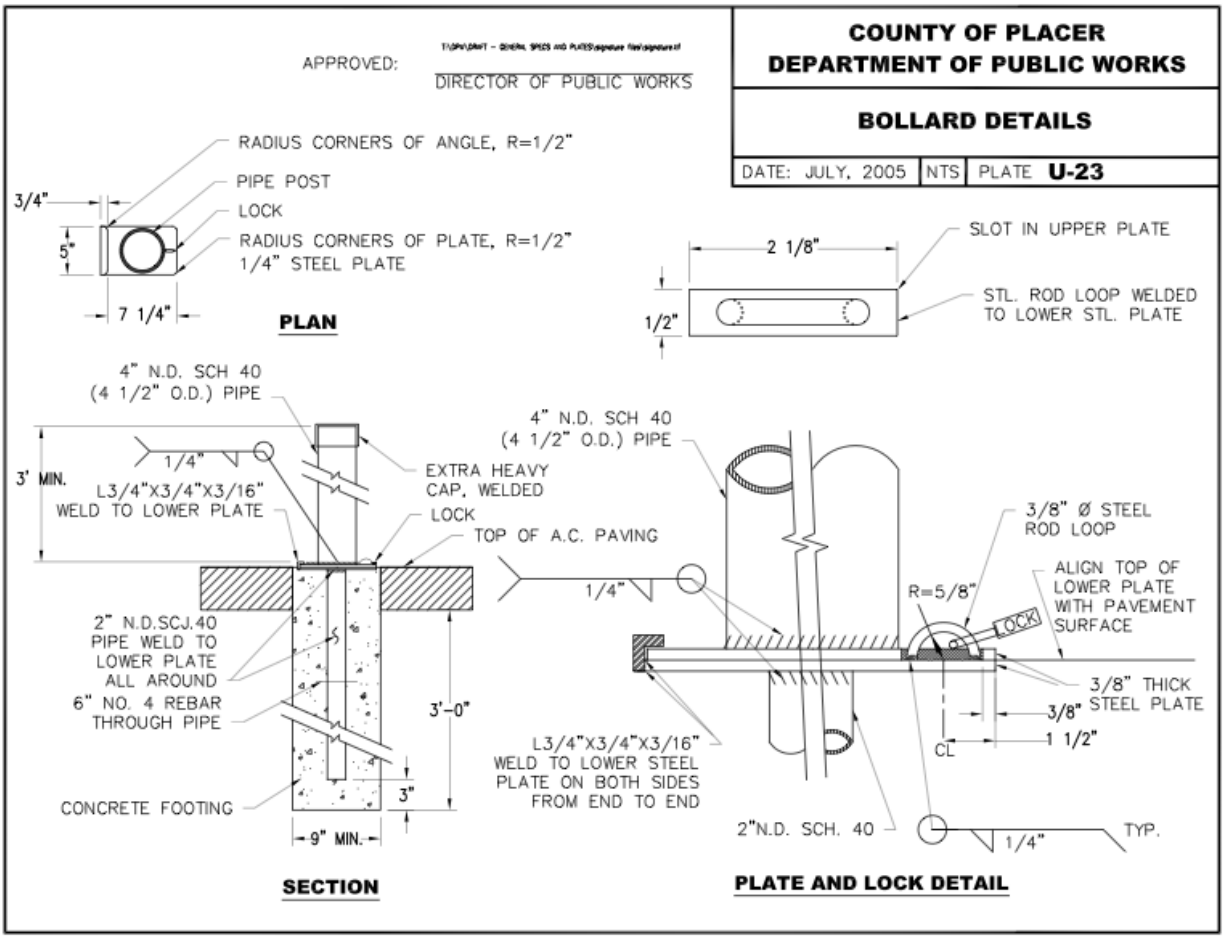
- Log fencing;
- Vegetative screening
- Boulders;
- Removable bollards; and
- User management gates.

There is an existing USFS user management gate (a gate that can be locked to prohibit seasonal motorized access to an area during the winter and spring for erosion and sediment control) for road number 16N74 at the end of Fulton Crescent Drive that will remain. The Project proposes boulders to separate the shared-use trail from the USFS road near the trail's connection to Fulton Crescent Drive, as illustrated on Sheet C12 in Appendix C. Log fencing, as shown in Figure 9, is also an option, should acceptable boulder materials be unavailable.

Emergency access to the shared-use trail from SR 28 is provided through the trailhead access road and parking area. The Project installs removable bollards in the middle of the trail at locations for emergency vehicle access. Figure 10 illustrates a Placer County detail for removable bollards.

Figure 9. Example of Log Fencing

Figure 10. Detail of Removable Bollards



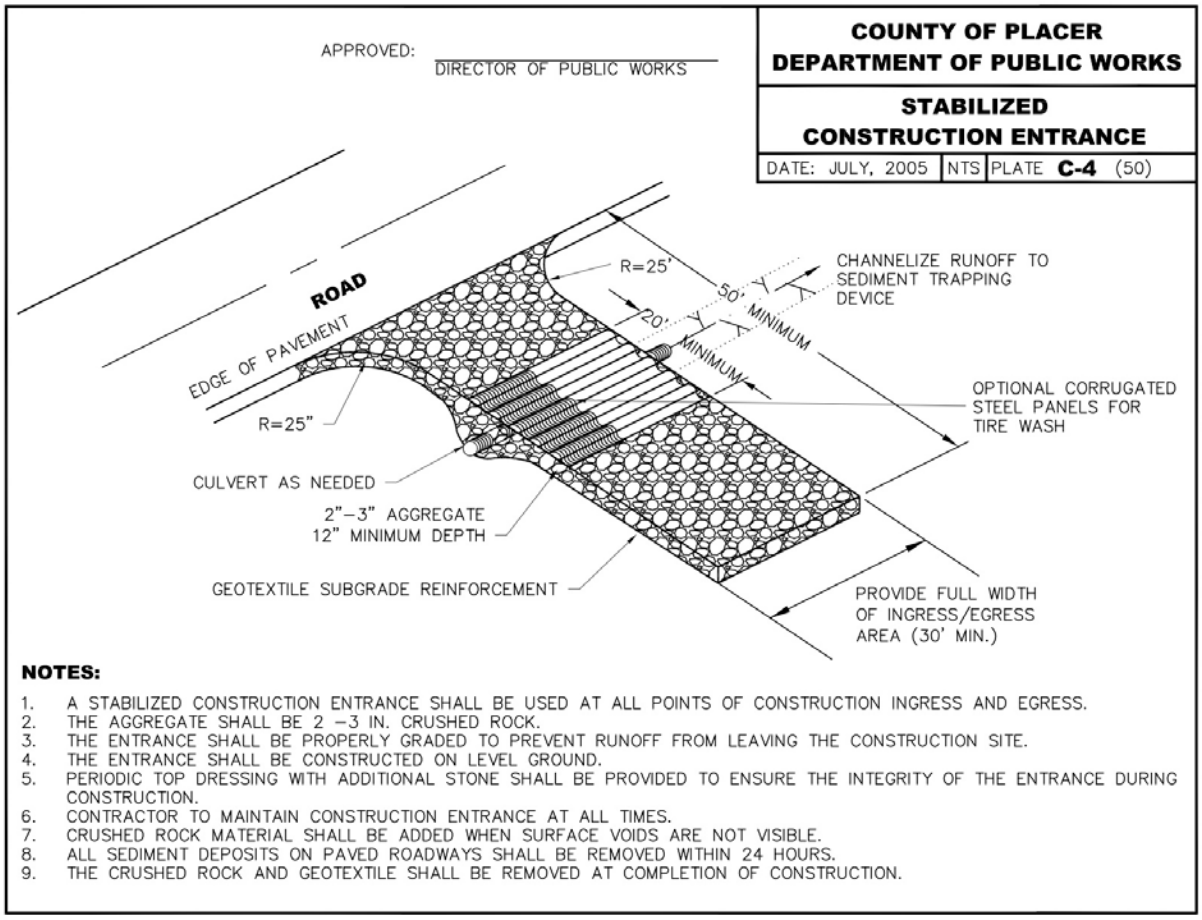
2.6.2.10 Staging and Access Areas

Plan sheets C13, C14, C15 and C16 in Appendix C illustrate proposed locations for temporary staging and construction access. Criteria for final determination of staging areas are: 1) high capability land; 2) areas with existing disturbance with preference towards existing paved areas for access; 3) ability to access on higher traffic volume streets, using neighborhood streets only if no other location is possible; 4) protected by site-specific BMPs for erosion and sediment control and fugitive dust; and 5) close enough to construction site to allow for efficient use. Figure 11 illustrates standard construction entrance and access stabilization measures. Conservancy, NTPUD and NV Energy owned land within the project area meet the criteria established above and provide necessary access for construction.

In addition to site access and staging plans, the Project provides other necessary construction management requirements for the National Pollutant Discharge Elimination System (NPDES) construction permitting and TRPA and County project approvals. These measures include dust control, properly located and protected stockpiles, erosion and sediment control structures, and disturbed site restoration.

Work zones will be established to limit and contain construction disturbance outside of and at appropriate distance from SEZ and wetland areas. Criteria for identification of these work zones includes: 1) construction methodology that uses the smallest equipment possible and access from both sides of the SEZ areas to reduce access area needed; and 2) limiting disturbance to the minimum necessary to allow two pieces of construction equipment to pass.

Figure 11. Construction Entrance/Access Stabilization



NOTES:

1. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE USED AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS.
2. THE AGGREGATE SHALL BE 2 –3 IN. CRUSHED ROCK.
3. THE ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
4. THE ENTRANCE SHALL BE CONSTRUCTED ON LEVEL GROUND.
5. PERIODIC TOP DRESSING WITH ADDITIONAL STONE SHALL BE PROVIDED TO ENSURE THE INTEGRITY OF THE ENTRANCE DURING CONSTRUCTION.
6. CONTRACTOR TO MAINTAIN CONSTRUCTION ENTRANCE AT ALL TIMES.
7. CRUSHED ROCK MATERIAL SHALL BE ADDED WHEN SURFACE VOIDS ARE NOT VISIBLE.
8. ALL SEDIMENT DEPOSITS ON PAVED ROADWAYS SHALL BE REMOVED WITHIN 24 HOURS.
9. THE CRUSHED ROCK AND GEOTEXTILE SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION.

2.6.2.11 Optional Trailhead Parking Area

Parking demand at points along the Project alignment is estimated based on the calculated demand for drive-to-trail users, as well as consideration as to how existing recreationalists and commuters may react to the new trail, as detailed in Appendix D. To accommodate anticipated parking demand the Project proposal includes an optional trailhead parking area component near the trail's intersection with SR 28, as illustrated on Plan Sheet C2 in Appendix C. The trailhead parking area would provide up to 24 spaces in an existing forest clearing accessed by a new access roadway that would intersect with SR 28 at the existing Dollar Drive intersection. Figure 8 shows the location of the access roadway and trailhead parking area.

2.6.3 Revegetation and Restoration, Trail Decommissioning and Permanent Best Management Practices

The Project description includes restoration strategies that address a number of different needs. Compliance with the TRPA Code and other standard permit conditions includes restoration of soil disturbed during construction and offsetting restoration for permanent disturbance and land coverage in low capability lands. Additionally, the Project proposes to consolidate some existing unpaved trail uses and apply BMPs to portions of the unpaved trails that are retained.

The Project identifies three types of revegetation and restoration treatment and soil protection strategies: Reveg Type A, Reveg Type B and Reveg Type C. There are three strategies to address differences in the slope of disturbed areas and whether they are located in or near SEZs. Appendix E provides the details of the Restoration and Revegetation Plans (RRPs) for disturbed areas, trail retrofitting or decommissioning, and for temporary and permanent erosion control. Revegetation and restoration goals are to establish or reestablish a naturally functioning and self-sustaining landscape. Ground and vegetation disturbance is limited to the trail corridor (including cut and fill boundaries) within the project area boundaries defined on the plan sheets attached in Appendix C.

Approved professionals monitor the revegetation and restoration activities. These professionals represent the County, act as revegetation/restoration specialists, and verify that the treatments are conducted in a satisfactory manner. Post-construction conditions require a multi-year warranty period to ensure success.

2.6.3.1 Revegetation and Restoration of Land Coverage

TRPA verified the existing legal land coverage for the project area based on the land capability and land coverage report submitted to TRPA in January 2012 (Appendix J). When verified existing land coverage is removed and restored within the defined project area, land coverage can be relocated as land coverage on comparable or higher capability lands. Land coverage removed and restored from SEZs (LCD 1b), is considered part of the restoration mitigation requirement (at 1.5:1 ratio for low capability lands). If the Conservancy or NTPUD do not own the parcel, the property owner (e.g., NV Energy) must agree to permanent restoration of the verified land coverage to allow mitigation credit or the land coverage must be transferred with the easement agreement.

Although minimized, the Project must encroach into delineated SEZ and wetlands in some locations to maintain the integrity of a linear public facility. The project team established trail alignments to avoid these sensitive areas to the extent possible, reduced disturbance through facility details (e.g., permeable fill and boardwalk construction), and propose to fully mitigate impacts when necessary. Adopted water quality plans from TRPA and Lahontan establish mandatory requirements for disturbance in SEZ. Lahontan and the USACE regulate activities in wetland areas. The Project creates no permanent disturbance of SEZ or wetlands, but does include a bridge span of Dollar Creek that under TRPA revised Code Chapter 30 equates to land coverage in LCD 1b.

2.6.3.2 Permanent Best Management Practices

TRPA revised Code Chapter 60 establishes requirements for installation of permanent BMPs. The Project incorporates provisions related to drainage conveyances, water quality treatment, cut/fill slopes, and revegetation. The Project proposes to infiltrate storm runoff from trail surfaces in adjacent clear zone areas. Where the trail lies in close proximity to existing roadways, capture and conveyance to infiltration areas may be necessary and will be defined during final engineering design.

To avoid or minimize potential effects to surface drainage patterns, the Project installs up to 13 culverts (Figure 12) at key drainages to by pass potential surface flows. In certain areas, concentrated side trail drainage requires swales as depicted in Figure 14.

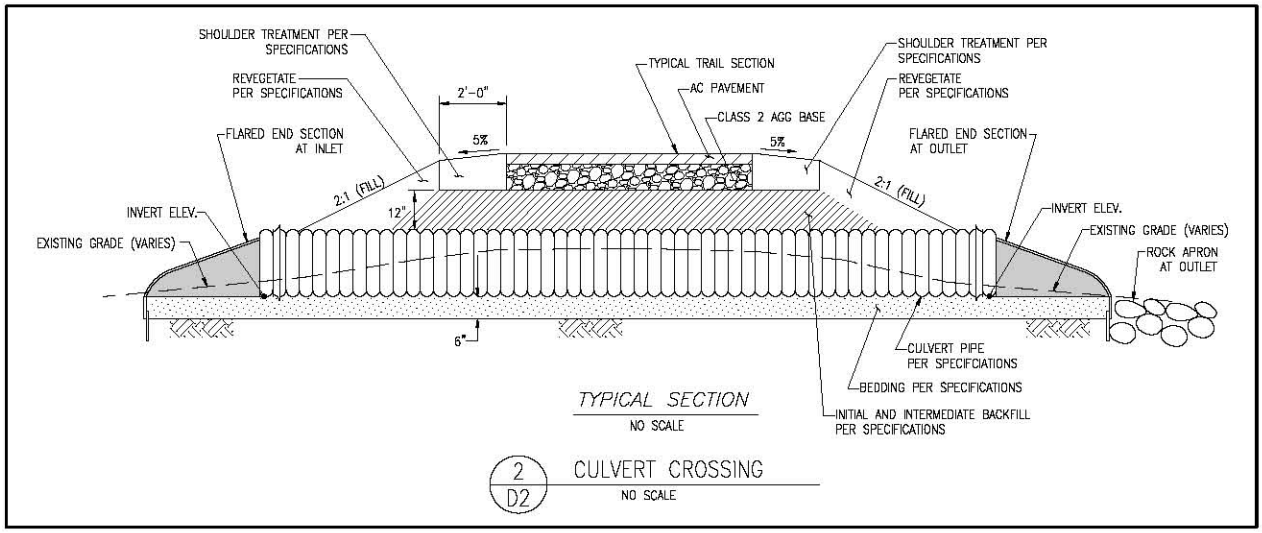
The Project installs up to 12 transitional aprons, as illustrated in Figure 13, at connections with existing unpaved trails to facilitate access onto and off of the shared-use trail and avoid tracking of sand and gravel onto the paved trail (thus creating a safety concern).

To avoid or minimize vegetation removal or damage from user created access points, the Project includes physical barriers and screening such as boulders, vegetative screening, log fences or management gates as detailed in Subsection 2.6.2.9 above.

To limit erosion from existing unpaved trails that remain, Figure 15 includes a schematic of permanent BMP application that may be employed along certain trail junctions.

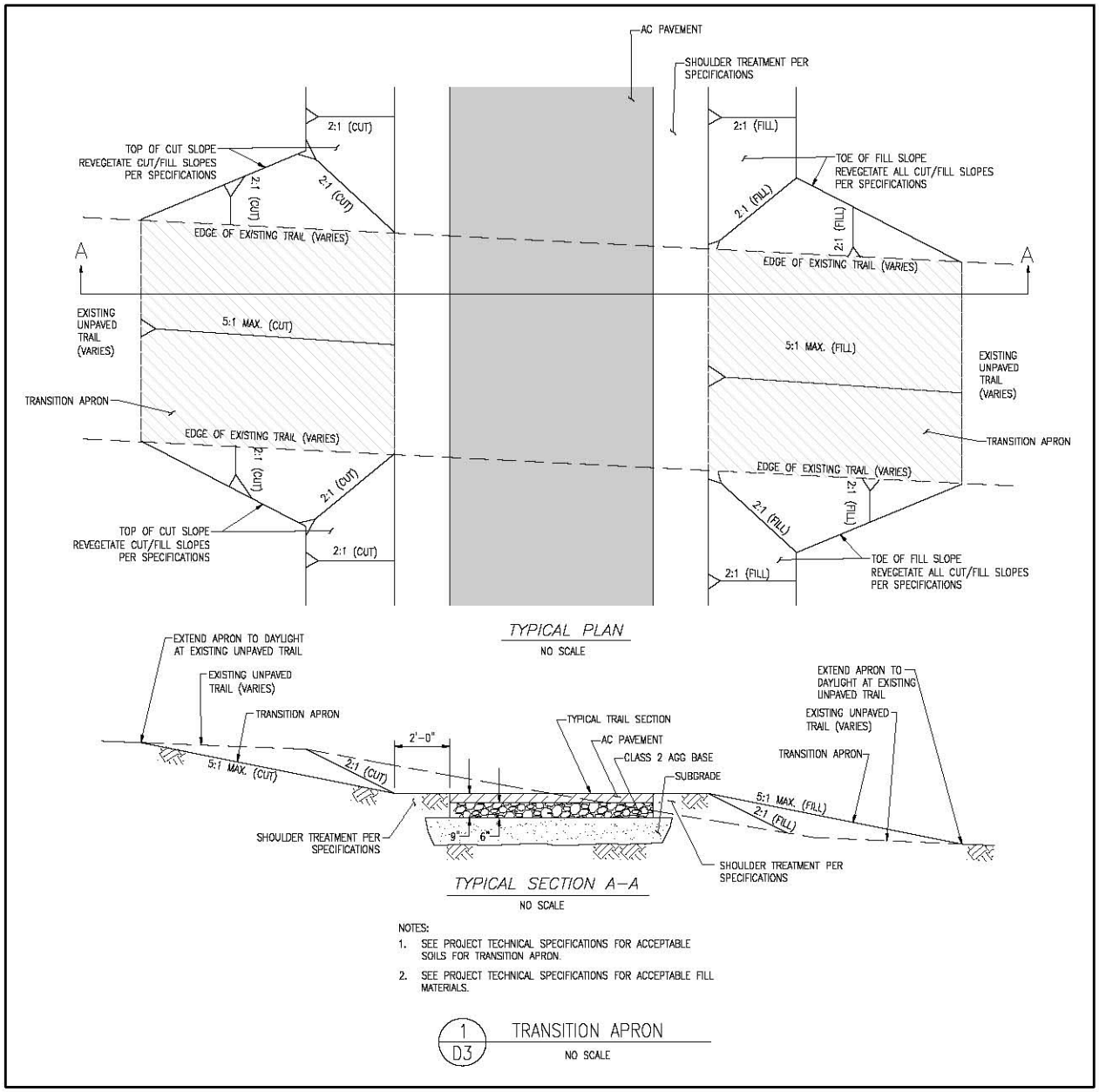
Other subsections of this chapter describe permanent BMPs as related to vegetation protection, disturbed site revegetation, and on-site restoration to avoid or minimize potential effects to surface water quality.

Figure 12. Culvert Crossing



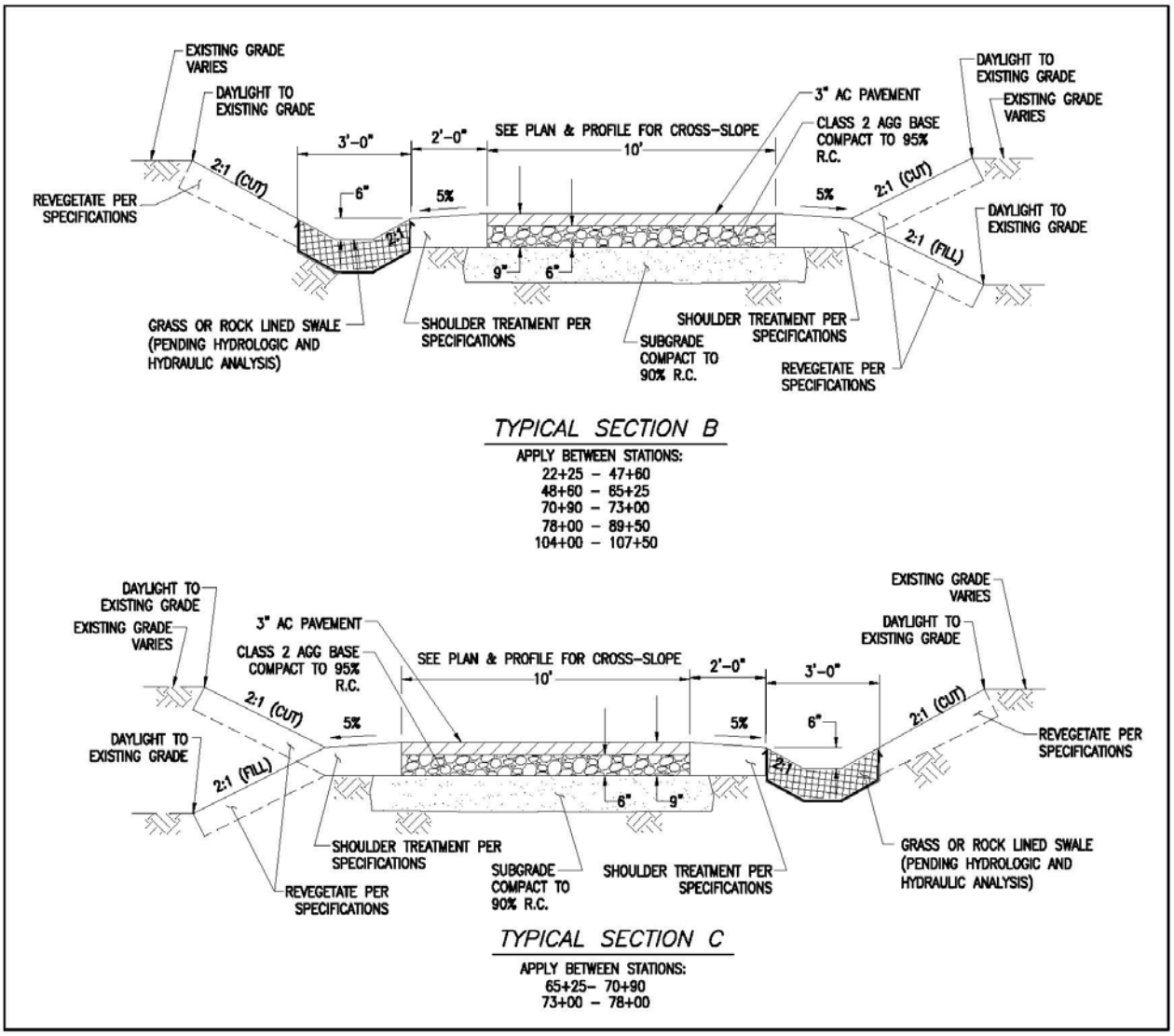
Source: NCE 2012

Figure 13. Transitional Apron



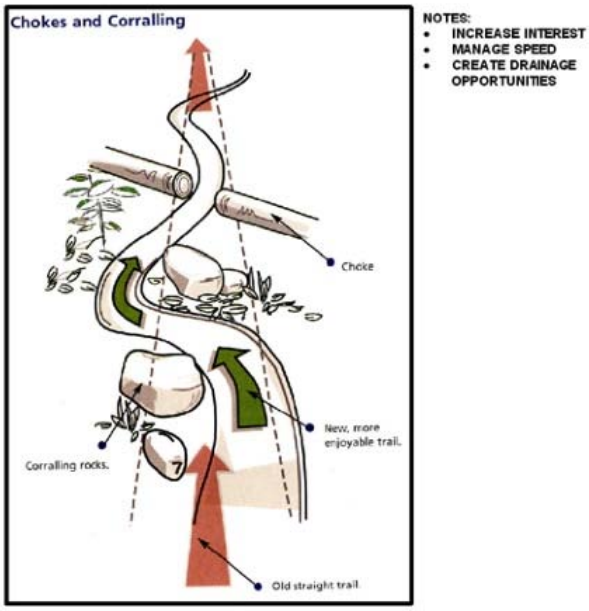
Source: NCE 2012

Figure 14. Typical Swale Detail



Source: NCE 2012

Figure 15. Example of Trail BMP Retrofit



2.6.4 Connectivity to Existing Trails, Neighborhoods and Other Access Points

The Project provides the central north-south trail link in the North Shore community as identified in the Lake Tahoe Regional BPMP (TMPO 2010) and connects residential neighborhoods to existing trails, commercial areas, schools, public parks and other access areas. Table 2 identifies the name and type of connections that occur with the shared-use trail. The Project extends an existing TCPUD multi-use trail to recreational users and commuters that live in the Country Club and Cedar Flats neighborhoods. The extension provides an improved shared-use trail connection to the larger Tahoe City bicycle trail network located west of the project area. The 7-Eleven Commercial Center and the transit stop are located at the shared-use trail crossing of SR 28.

Table 2

Dollar Creek Shared-Use Trail Connectivity

Connection Name	Connection Type
TCPUD Multi-Use Trail System	Via TCPUD Multi-Use Trail
Existing Unpaved Trails on Public Land Illustrated on Plan Sheets C2 to C12 (Appendix C)	Adjacent Use
Country Club and Cedar Flats Residential Neighborhoods	Via Existing Unpaved Trails
North Tahoe High School	Via Existing Unpaved Trails
7-Eleven Commercial Center	Via TCPUD Multi-Use Trail
Burton Creek State Park	Via Existing Unpaved Trails and Roads
SR 28 and Dollar Drive Transit Stop	Adjacent Use

Source: HBA 2012

2.7 PROJECT IMPLEMENTATION

Based on future funding availability, the Placer County Department of Public Works proposes to implement the Project in the 2013-2015 construction seasons to assist with meeting the goals of TRPA's Lake Tahoe Region BPMP (TMPO 2010). The County's contractor will conduct grading, clearing, and excavation work during the TRPA grading season between May 1 and October 15 unless a grading extension is granted.

Prior to construction, the contractor secures storage, access, and staging areas as approved by the County and TRPA. No staging or storage occurs in wetland areas or SEZs. The contractor is responsible for maintenance of mobilization sites, including placement and maintenance of temporary erosion and sediment control BMPs. Equipment, vehicles, and materials are stored on paved or disturbed surfaces only, in locations approved by the County and TRPA. The contractor limits the areas to be disturbed to the minimum size required to construct proposed improvements. Disturbed areas have temporary BMPs in place before and during construction and are restored to preconstruction conditions following completion of construction activities. Temporary BMPs include, but are not limited to, fiber rolls, gravel bags, silt fencing, tree protection fencing, construction limit fencing, and gravel construction access.

Construction materials used for the Project include, but are not limited to, backfill material, drain rock, aggregate base, asphalt, concrete, reclaimed asphalt pavement (RAP), geoblocks, filter fabric, erosion control blankets, rip rap, vegetation, sediment traps with grates, manholes, transverse drains, concrete culverts, corrugated metal pipe culverts, pipe, and erosion control blocks.

General construction equipment used for the Project include, but are not limited to, backhoes, mini excavators, wheeled loaders, vibratory plate compactors, roller compactors, forklifts or loaders with fork attachments, asphalt pavers, saw cutting equipment, hand tools, hauling trucks, street sweepers, water trucks, curb and gutter forming machines, concrete trucks, and delivery trucks. In SEZs, equipment will be limited to wheeled loaders, backhoes, hand equipment, or other similar low impact equipment.

2.8 OPERATIONS, MANAGEMENT AND MAINTENANCE STRATEGY

The Project includes facility features and construction controls to minimize management and maintenance requirements including: adequate construction standards to accommodate service vehicles, designated access points, and user control features such as signage, railings, or rock/wood/vegetative barriers as appropriate in sensitive areas. The Operations, Management and Maintenance Strategy (OMMS), attached in Appendix F, establishes guidance for the Project. As project planners complete environmental study and final design details, and as use of the completed trail or trail segments dictate, additional requirements may arise and will be addressed. The long-term Operator of the shared-use trail will be determined prior to project construction.

The following management and maintenance objectives state clearly the designated Operator's intent for long-term project support.

a. Manage trail use to provide broad non-motorized access to users of all age groups and abilities.
b. Comply with ADA provisions for access for persons with disabilities.
c. Manage trail use to protect natural and cultural resources.
d. Manage trail use to create a neighborhood asset.
e. Use the least restrictive means available to effectively manage trail use, increasing degree of restrictions only in response to actual conditions.
f. Maintain trail facilities adequately to insure a safe experience for all user groups.
g. Maintain trail facilities adequately to protect the public investment in construction costs.

The Project brings new users to the project area and proposes new facilities that require periodic maintenance. The Operator retains the responsibility to ensure public access consistent with project goals and to maintain trail features for safety and to protect the investment of public funds used in their construction. Appendix F further describes strategies to provide management and maintenance, acknowledging the appropriate combination will change over time to reflect need and changing circumstances.

3.0 ENVIRONMENTAL SETTING AND IMPACT ANALYSIS

The following environmental analysis has been prepared using the CEQA Guidelines Appendix H: Environmental Checklist Form to complete an Initial Study (IS). This checklist also includes analysis of environmental impacts required in the TRPA Initial Environmental Checklist (IEC) found at:

http://www.trpa.org/documents/currentapps/Initial_Environmental_Checklist_Web.pdf.

3.1 EVALUATION OF ENVIRONMENTAL IMPACTS

3.1.1 CEQA

CEQA requires a brief explanation for answers to the Appendix G: Environmental Checklist except "No Impact" responses that are adequately supported by noted information sources. Answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

Table 3 defines CEQA direction applicable to each checklist question.

Table 3

CEQA Defined Levels of Impact Significance

Impact Severity	Definition
No Impact	A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
Less than Significant Impact	“Less than Significant Impact” applies where the Project’s impact creates no significant impacts based on the criterion or criteria that sets the level of impact to a resource and require no mitigation to avoid or reduce impacts.
Less than Significant Impact after Mitigation	“Less than Significant Impact after Mitigation" applies where the incorporation of mitigation measures has reduced an effect from potentially "Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
Significant Impact	"Significant Impact" is appropriate if there is substantial evidence that an effect is potentially significant, as based on the criterion or criteria that sets the level of impact to a resource. If there are one of more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

Source: CEQA Appendix G Environmental Checklist Form 2010

3.1.2 TRPA

Article VI of the TRPA Rules of Procedures presents the rules governing the preparation and processing of environmental documents pursuant to Article VII of the Compact and revised Code of Ordinance (revised Code) Chapter 3.

TRPA uses an IEC, in conjunction with other available information, to determine whether an EIS will be prepared for a project or other matter. This could include preparation of an Environmental Assessment, in accordance with Section 3.4 of the TRPA revised Code, when TRPA determines that an IEC will not provide sufficient information to make the necessary findings for a project.

Based on an initial review of the Project, TRPA staff determined that an IEC would provide sufficient information regarding the Project to make one of the findings below. As set forth in revised Code Subsection 3.3.1, based on the information submitted in the IEC, and other information known to TRPA, TRPA shall make one of the following findings and take the identified action:

1. The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.
2. The proposed project could have a significant effect on the environment, but due to the listed mitigation measures which have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.
3. The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with this Chapter and TRPA's Rules of Procedure.

When completed, TRPA reviews the IEC to determine the adequacy and objectivity of the responses. When appropriate, TRPA consults informally with federal, state, or local agencies with jurisdiction over the project or with special expertise on applicable environmental impacts.

3.2 ENVIRONMENTAL SETTINGS AND CEQA, TRPA AND NEPA IMPACTS

The sections that follow present the environmental impact analyses following the CEQA Appendix G Checklist supplemented to also reflect the questions included in the TRPA IEC. The analyses generally follow this format:

1. Setting - A summary including physical and regulatory setting necessary to identify and analyze potentially significant impacts;
2. Environmental Analysis and Mitigation Measures – For each CEQA and TRPA checklist question, this section: begins with a statement of criteria used to determine level of significance; then provides impact analysis.
3. Impact analysis for short-term, long-term, direct and indirect impacts, as applicable, and then includes mitigation measures if needed to reduce impacts to a less than significant level. To avoid excessive duplication where inclusion of both CEQA and TRPA checklist questions address similar impacts, the analysis provides full evaluation in one location only and specific references in related sections.

Section 3.2.18, Mandatory Findings of Significance, addresses cumulative effects to specific environmental resources.

Table 4 lists the Placer County supplemental documents, including public documents and site-specific studies prepared to evaluate in detail the effects or impacts associated with the Project. Some documents are attached as appendices to the IS/IEC, while County documents are available for public review on request, Monday through Friday, 8am to 5pm, at the Placer County Public Works Department, Tahoe Engineering Division, 7717 North Lake Boulevard (SR 28), Kings Beach, CA 96143.

Table 4

Placer County Supplemental Documents

County Documents		☐ Community Plan
		☐ Environmental Review Ordinance
		☒ General Plan – Placer County General Plan
		☒ Grading Ordinance – Placer County
		☐ Land Development Manual
		☐ Land Division Ordinance
		☒ Stormwater Management Manual – Placer County
		☒ APCD Rule 228 – Fugitive Dust Standards
		☒ Noise Ordinance – Placer County
Trustee Agency Documents		☒ TRPA Handbook of Best Management Practices (www.trpa.org)
		☒ TRPA Code of Ordinances, as Effective 03/01/2012 (www.trpa.org)
		☒ TRPA Air Quality Plan (www.trpa.org)
Site-Specific Studies	Planning Department	☒ Biological Study – Natural Environment Study (Appendix H)
		☒ Cultural Resources Pedestrian Survey (Appendix I)
		☒ Cultural Resources Records Search (Appendix I)
		☐ Lighting and Photometric Plan
		☐ Paleontological Survey
		☐ Tree Survey and Arborist Report
		☐ Visual Impact Analysis
		☒ Wetland Delineation (Appendix H)
		☒ Traffic Study (Appendices A and D)
		☒ Crossing Study – State Route 28 Crossing Memo (Appendix B)
	Department of Public Works	☐ Phasing Plan
		☒ Preliminary Grading and Design Plans (Appendix C)
		☐ Preliminary Geotechnical Report
		☐ Preliminary Drainage Report
		☒ Stormwater and Surface Water Quality BMP Plan – On Design Plans
		☒ Cultural Resources Pedestrian Survey and Records Search (Appendix I)
		☒ Noxious Weed Risk Assessment (NWRA) (Appendix H)
		☒ Botanical Baseline Assessment (Appendix H)
		☒ Fish and Wildlife Baseline Assessment (Appendix H)
		☒ Water Quality Memorandum (Appendix L)

		☐
	Environmental Health Services	☐ Groundwater Contamination Report
		☐ Hydro-Geological Study
		☐ Acoustical Analysis
		☐ Phase I Environmental Site Assessment
		☐ Soils Screening
		☐ Preliminary Endangerment Assessment
		☒ Initial Site Assessment (Appendix K)
	Air Pollution Control District	☐ CALINE4 Carbon Monoxide Analysis
		☒ Construction Emission and Dust Control Plan (Appendix G)
		☐ Geotechnical Report (for naturally occurring asbestos)
		☐ Health Risk Assessment
		☒ Air Quality Assessment (Appendix G)
		☐
	Fire Department	☐ Emergency Response and/or Evacuation Plan
		☐ Traffic and Circulation Plan
		☐
	Mosquito Abatement District	☐ Guidelines and Standards for Vector Prevention in Proposed Developments
		☐

3.2.1 Aesthetics (CEQA), Scenic Resources/Community Design and Light and Glare (TRPA)

This section presents the analyses for potential impacts to aesthetics, scenic resources/community design and light and glare. Table 5 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 5

Aesthetics, Scenic Resources/Community Design and Light and Glare

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
1. Have a substantial adverse effect on a scenic vista? (CEQA Ia)			X	
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway? (CEQA Ib)				X
3. Substantially degrade the existing visual character or quality of the site and its surroundings? (CEQA Ic)			X	
4. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (CEQA Id)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
5. Be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe? (TRPA item 18a)	X			
6. Be visible from any public recreation area or TRPA designated bicycle trail? (TRPA item 18b)	X			
7. Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area? (TRPA item 18c)				X
8. Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan? (TRPA item 18d)				X

9. Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines? (TRPA item 18e)		**X**		
10. Include new or modified sources of exterior lighting? (TRPA item 7a)				**X**
11. Create new illumination which is more substantial than other lighting, if any, within the surrounding area? (TRPA item 7b)				**X**
12. Cause light from exterior sources to be cast off-site or onto public lands? (TRPA item 7c)				**X**
13. Create new sources of glare through the siting of the improvements or through the use of reflective materials? (TRPA item 7d)				**X**

3.2.1.1 Environmental Setting

The project area includes a mixture of undeveloped land, Caltrans roadway ROWs, and a North Tahoe Public Utility District (NTPUD) utility easement. Nearby land uses include single family and multi-family homes, undeveloped areas, community recreation facilities, and some retail/commercial areas.

Views from the project area consist of forest, utility corridors, meadow/riparian, Dollar Reservoir and Dollar Creek, a boulder field, low and medium density residential and light commercial. Views of the project area exist from State Route (SR) 28 and adjacent land uses including residential, conservation and limited commercial development. Views of project features from the adjacent residential areas, specifically from those residential areas with most direct visual access to the Project features, are most sensitive to change.

CEQA defines scenic vistas as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public as defined by local plans or policies (e.g., TRPA Scenic Guidelines).

No federally-designated scenic highways exist within the project area. The Project is not visible from federal highways or from Lake Tahoe. Lake Tahoe cannot be seen from the project area. The project area crosses State Route 28, a State of California highway and TRPA-designated scenic highway (TRPA Scenic Resources Inventory 1982) and thus a short portion of the Project is visible from SR 28, as shown in Figures 16 and 17.

Figure 16. View of Project Crossing of SR 28

Figure 17. View of Project Area from SR 28 Looking Northeast

TRPA Lake Tahoe Basin Scenic Resource Inventory. In 1982, TRPA surveyed the Lake Tahoe Basin's major roadways and assigned each roadway unit a travel route rating and a scenic quality rating. The travel route rating considers views of man-made features, roadway distractions, road structure, lake views, landscape views, and variety for each roadway unit. The scenic quality ratings include an inventory of visual subcomponents and specific scenic resources within each roadway unit. This rating system provides an assessment of the natural landscape based on four qualities; intactness, unity, vividness, and variety. The primary goal of both the travel route and scenic quality rating systems is to maintain or upgrade the scenic quality of the view from the road. TRPA Scenic Quality Threshold standards require roadway travel routes to attain a minimum travel route rating of 15.5 and to maintain the 1982 scenic quality rating.

The Project is located within TRPA Scenic Roadway Unit 16 – Lake Forest. Scenic Roadway Unit 16 is a Rural Transition Visual Environment. The 1982 travel route rating was 13 and the area was not in attainment; however, since 2001, the area has been in attainment with a threshold composite score of 16.5, primarily due to improvements in man-made features and roadway distractions. The Project is also located in Scenic Bikeway Unit 2 – Tahoe City to Dollar Point.

TRPA Lake Tahoe Scenic Resource Evaluation. In 1993, TRPA prepared the Lake Tahoe Basin Scenic Resources Evaluation to add specific beach and bike trail resources to the roadway unit scenic resource evaluations conducted in 1982.

3.2.1.2 Environmental Analysis and Mitigation Measures

1. Would the Project have a substantial adverse effect on a scenic vista? (CEQA Ia)

Standard of Significance: Creating visually dominant features that are out of scale with the surrounding landscape constitutes a significant impact to scenic vistas under CEQA (note: Project effects associated with TRPA scenic features are discussed below and not repeated here). Points of significance include: 1) creation of strong visual contrast; 2) reduction in scenic vista area viewed from foreground or middleground; and/or 3) non-compliance with scenic resource goals, policies or standards of federal, state of local agencies. CEQA relies on local policies to define scenic vistas.

The project area contains no scenic vistas visible from public roadways or recreational areas. Project effects include trail features, tree removal and trail users. The Project constructs a flat asphalt concrete surface constructed at or near grade at a minimum height above ground surface to assure protection of soil, water and biological resources, typically never more than three inches above grade. The low profile and complimentary colors of the shared-use trail do not block or significantly alter views. Trail features stay entirely subordinate in the landscaping. The Project constructs a bridge with railings over Dollar Creek. The bridge is located in a densely forested area where riparian habitat exists along the streambanks. Based on the proposed location of the bridge deck and railings, no effect to scenic vistas results because views to and from this location of Dollar Creek consist of limited foreground views due to the presence of existing vegetation.

An increase in trail users creates limited changes to scenic vistas. The shared-use trail users offer movement and colors that contrast with vegetative backgrounds; although the meandering alignment that reduces vegetation and tree removal helps obscure both the trail and trail users from view.

This evaluation concludes that the Project facility features and design, as specified in Section 2.6.2, avoid and minimize potential impacts to scenic vistas through minimization of tree and vegetation removal, site-specific design features that minimize ground disturbance, screening, and the use of earth tone colors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

2. Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (CEQA Ib)

Standard of Significance: The significance criteria outlined for Question 1 (CEQA checklist item Ia) also apply to Question 2 (CEQA checklist item Ib).

No state scenic highways exist within nor are directly visible from the project area. Therefore, the Project has no impact on state designated scenic highways.

Environmental Analysis: *No Impact.*

Required Mitigation: **None**.

3. Would the Project substantially degrade the existing visual character or quality of the site and its surroundings? (CEQA Ic)

Standard of Significance: Degradation in visual quality or elimination of a specific scenic resource results in a significant impact to scenic resources.

The existing visual character of a majority of the project area consists of undeveloped forest and unpaved trail networks.

The Project features are proposed low to the ground in muted colors and avoid degrading the existing visual character or quality of the project area. Where project features include vertical elements, such as the Dollar Creek bridge railings, densely forested areas minimize the locations from which such features are viewed. In the most natural areas within the project area, the changes to visual character do not rise to the level of substantial degradation as documented in Question 1 above. Visual screening and safety barriers add visual variety and reduce the visual presence of the trail. Questions 5 through 9 analyzed for TRPA Checklist items include more stringent quantitative analysis from designated scenic resources. Based on the analysis of TRPA Roadway Units and Scenic Resources, the Project does not create a change in visual quality that degrades the current ratings, and therefore creates no significant impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

4. Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (CEQA Id)

Standard of Significance: An increase in night lighting or glare sufficient to enter adjacent residences constitutes a significant impact to day or nighttime views in the project area.

The Project proposal includes no new permanent light sources or reflective materials and fixtures that create glare. Because the Project proposes no new light sources along the trail alignment, no impact to nighttime views results. Since no materials that cause glare are used, no impact to daytime views results.

Installation of signage, benches, and trash receptacles along the alignment conforms to TRPA Design Guidelines for color and material to avoid creating sources of glare. A lighted pedestrian signal that

produces light when activated is necessary at one roadway crossing at Dollar Drive and SR 28. This signal is located along a heavily travelled roadway, but is located where existing street lighting is already present. The addition of a pedestrian signal neither substantially increases light levels nor causes a substantial change to existing views.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

5. Would the Project be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe? (TRPA 18a)

Yes. Standard of Significance: A degradation of adopted TRPA scenic thresholds including scenic travel route or scenic quality ratings constitutes a significant impact on scenic resources.

The Project is not visible from federal highways, Pioneer Trail or Lake Tahoe. Technical studies identify no rock outcroppings, historic buildings or other scenic resources in this portion of the project area.

The Project extends an existing TCPUD multi-use trail at Dollar Drive and SR 28. SR 28 is a State of California Highway and the Project intersection at Dollar Drive and SR 28, which is a visual feature necessary for public safety, will be visible. SR 28 is a "Transition" scenic highway corridor. In "Transition Corridors", the built environment is not the dominant visual feature, but is integrated into the landscape. Project features visible from SR 28 include asphalt concrete trail surface, a parking lot access road, vehicle barriers, tree removal and revegetation plantings. The majority of the trail is not visible, but the portion of the trail at the SR 28 crossing and parallel to SR 28 is visible as the trail either crosses or is immediately adjacent to the roadway. The trail is at grade at the crossing location with no cut or fill slopes. Likewise a portion of the parking lot access road is visible where the access road meets SR 28. Following this intersection, the access road then meanders behind existing trees and is not visually prevalent from SR 28. The parking lot near the SR 28 crossing is obscured from view as it is a flat surface at grade, is setback over 200 feet from the roadway, and is separated from the roadway by existing trees that will be maintained. TRPA revised Code Section 66.2 states, "All projects, excluding signs, driveways, parking for scenic vista points, trailheads, and pedestrian/bicycle paths, shall be sited in such a manner that they are not visually evident from the scenic highway." Therefore, the Project is exempt from this requirement and the visibility of a portion of the Project along SR 28 is not subject to the Visual Magnitude/Contrast Ratings of the Design Review Guidelines.

TRPA designates this section of state highway as portions of Scenic Roadway Unit 16, which is in attainment with the TRPA scenic threshold. The Project affects no mapped scenic features in this area. The TRPA 2006 Threshold Evaluation rated Roadway Unit 16 (Lake Forest) with a composite travel route rating of 16.5 and a scenic resource threshold rating of 4. The Project provides for a designated route for bicyclists and pedestrians and reduces the distractions for viewers of the road related to these users. While the addition of a pedestrian crossing across SR 28 produces slight improvements for roadway distractions, these design elements also increase the prominence of linear clearing of vegetation and man-made features visible from SR 28. Natural and man-made barriers can provide visual screening. As discussed in Section 2.6.2.9 of the Project Description, the installation of physical barriers and screening effectively reduces the scenic contrast of the trail and trail use. Existing boulders and log fencing along SR 28 at this location shall be retained and replaced following construction. Vegetative screening established near the trailhead parking access road and parking area, as stated in Section 2.6.2.9, minimizes views of the trail and parking access road from SR 28. The placement of visual screening elements, such as vegetation, boulders and log fencing, between the parking access road, SR 28, and the trail provides visual screening as well as visual interest through roadway distractions and variety.

The Project removes trees at the SR 28 crossing. As discussed in Question 41, a detailed tree survey and tree health evaluations have not been completed for the project area. As construction plans develop, the additional data will refine the tree removal proposal; however, of the 41 trees identified for removal for the trailhead parking area and access roadway there are nine (9) trees of 30-inch dbh and greater that will be avoided by slight realignment of the final trail design. The trail and parking access road construction require removal of some of the smaller trees that cannot be avoided, and the removal of these trees potentially increases views of the trail and parking access road. The trailhead parking area is located in an existing forest clearing, minimizing tree removal. .

The Project implements TRPA planning recommendations (e.g., Scenic Quality Improvement Program), such as minimized signage and larger setbacks to screen and visually soften the urban appearance, for improving scenic quality. While the visual changes are confined to the area near the Dollar Drive/SR 28 intersection and are not sufficient to reduce the overall roadway unit rating, particularly to a non-attainment level, tree preservation measures should be implemented in addition to the revegetation plan (See section 2.6.3.1) to reduce tree loss and other vegetation removal.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

SR-1. Tree Protection and Avoidance Measures

Tree Survey and Evaluation: Prior to completion of final construction drawings, the County shall complete a detailed tree survey identifying the precise number, size and species of trees to be removed for construction of facility features. Evaluation of nearby trees will determine if they pose a hazard to high traffic areas, or risk to structures, are disease ridden, contribute to the expansion of disease or result in increased fire danger. Final project plans shall demonstrate compliance with TRPA revised Code Chapter 61 for tree removal provisions.

Avoidance: If required by TRPA at the time final project plans are prepared for permit acknowledgment, trees identified within the existing trail alignment 30-inches diameter at breast height (dbh) or larger shall be retained and avoided. If necessary, the trail alignment shall be modified or re-routed in order to prevent any damage to trees larger than 30-inches dbh. The Project design avoids tree removal when reasonable alternative routing opportunities exist. Where site conditions allow, the trail winds through the trees, retaining the character of a forest trail. On these sites, the trail alignment passes within the drip-line of mature trees, reducing threats to long-term tree survival by encroaching on one side only and setting trail surface grades to reduce excavation or fill.

Tree Protection Measures: Final construction drawings shall identify trees requiring protection during construction. Trees are to be fenced at the drip-line in accordance with TRPA revised Code Subsection 33.6.10. If the Project must be located within the drip-line of a tree, two by four (2x4) lumber secured with banding around the trunk of the tree shall protect the tree bole from construction equipment damage. Alternative protections shall be identified for areas of dense tree stands. No material storage or equipment parking shall occur within the drip-lines of retained trees. Maintenance of tree protection measures shall occur throughout the construction period the originally installed condition. A qualified professional (i.e. certified Arborist or equivalent) shall perform the cutting or pruning of tree roots. To minimize root damage, actions of root pruning shall be hand dug. Hand pruning of roots shall utilize clean and sharp tools and saws. Roots shall be cleanly cut to prevent disease introduction. Exposed roots shall be covered to prevent drying. The Tree Protection Plan shall include monitoring of the trees slated for retention for a period of

three years. Mortality of any of the retained trees shall require the replacement of trees lost utilizing the same species and relative location.

SR-2. Visual Screening

Boulders or log fencing, as discussed in Section 2.6.2.9 shall be utilized in the vicinity of the SR 28 crossing and trailhead access roadway intersection. Existing boulders along SR 28 that inhibit construction shall be retained and replaced onsite between the trail and SR 28 following construction to provide both a physical and visual barrier. In addition, vegetative screening in the form of replacement trees and native shrubs shall be located in the vicinity of the trail and optional trailhead parking access road at SR 28. Vegetation shall be located along both the trail and parking access road, particularly in the area between the two routes, north of the existing bus shelter and shall separate the trail and parking access road from SR 28. Installation of vegetative screening shall occur following trail construction, as part of the Restoration and Revegetation Plans (RRPs) outlined in Appendix E.

6. Would the Project be visible from any public recreation area or TRPA designated bicycle trail? (TRPA 18b)

Yes. Standard of Significance: A reduction in scenic vista area viewed from foreground or middleground from a public recreation area or degradation in visual quality or elimination of a TRPA designated scenic resource constitutes a significant impact to scenic resources.

Project planning and technical studies identify Project visibility from the TCPUD multi-use trail and no visibility from public recreation areas.

The Lake Tahoe Scenic Resource Evaluation (TRPA 2006) and the 1993 Lake Tahoe Basin Scenic Resource Evaluation state that the existing multi-use trail between Tahoe City and Dollar Drive has a low scenic quality rating and medium density residential (e.g., townhouses, apartments and condominiums) and commercial development block views and detract from the natural character of the landscape. The rating status of this trail has not changed since 1993. From Lake Forest Road to Dollar Drive where the bike trail currently ends, commercial and residential development block both foreground and middleground views of the mountains to the west and north, and the lake to the east. The Project is located at the northernmost end of this bike trail. Installing a shared-use trail extension across the road from the existing TCPUD multi-use trail creates little visible change with the exception of the Project's intersection with SR 28. The intersection includes a crossing detail designed to ensure the safety of trail users. The crossing design proposes use of a marked crosswalk, "Yield here to pedestrians" advanced warning signs, and push-button activated Rectangular Rapid Flashing Beacons to warn automobiles of crossing bicyclists and pedestrians. The crossing signals and lights are consistent with the adjacent roadway features and nearby traffic lights and will not adversely impact scenic quality ratings or the quality of scenic vistas in the vicinity.

Although the Project is visible from the existing TCPUD multi-use trail because it connects to and extends the existing trail to the north, it provides a visual continuation of the trail and leads trail users into other parts of the community. As an extension of the existing multi-use trail system, the Project does not visually detract from the existing TCPUD trail.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

7. Would the Project block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area? (TRPA 18c)

No. Standard of Significance: Creating visually dominant features that are out of scale with the surrounding landscape constituents a significant impact to Lake Tahoe or other scenic vistas. Points of significance include: 1) creation of strong visual contrast; 2) reduction in scenic vista area viewed from foreground or middleground; and/or 3) non-compliance with scenic resource goals, policies or standards of federal, state of local agencies.

The project area contains no views of Lake Tahoe and thus the Project affects no views of Lake Tahoe. As discussed above for Question 1 (CEQA Checklist item Ia), the project area contains no scenic vistas visible from public roadways or recreational areas. As documented in Question 1 above, the Project does not create a new visibly dominant man-made feature that is out of scale with the surroundings landscape.

Environmental Analysis: *No Impact*.

Required Mitigation: **None**.

8. Would the Project be inconsistent with the height and design standards required by the applicable ordinance or Community Plan? (TRPA 18d)

No. Standard of Significance: The TRPA Regional Plan and Code of Ordinances provide standards that are applicable to the Project. Revised Code Chapter 37 sets forth standards for building height and are not applicable to the Project. Revised Code Chapters 36 (Design Standards) and 66 (Scenic Quality) set forth standards to ensure projects are designed and constructed consistent with Community Design Subelement of the Regional Plan Land Use Element. An inconsistency with these standards would result in a significant impact.

Project proposals are analyzed in accordance to the appropriate regulations, standards, and guidelines of each jurisdiction. Analysis omits discussions of regulations, standards, or guidelines not applicable to the Project._Applicable revised Code standards include:

- Section 36.5 requires integration into the surrounding environment – The Project complies and the alignment follows contours and avoids tree removal wherever possible. The Project incorporates retaining walls or other armoring to limit necessary disturbance and tree removal in hillside areas.
- Section 36.5 requires use of previously disturbed areas – The Project complies either through the use of disturbed areas and/or by following existing unpaved trails whenever possible
- Section 36.12 requires soil and vegetation protection and restoration – Some vegetation removal occurs, including riparian vegetation removal. The bridge span across Dollar Creek reduces impacts to riparian areas and Stream Environmental Zones (SEZs) and allows for reestablishment and restoration of vegetation and continuation of hydrologic functions. The Project restores areas disturbed during construction and some existing trails. The Project retrofits some existing trails and neighborhood connectors with BMPs.
- Section 66.1 requires maintenance of or improvement to scenic quality ratings, scenic roadway unit ratings, and recreation area threshold ratings – As discussed above for Question 5, scenic quality ratings, scenic roadway unit ratings and recreational threshold ratings will be retained.
- Subsection 66.2.4.A.1 requires the undergrounding of new utility lines – Project features do not include new utility lines or the undergrounding of existing utility lines. However, the Project relocates a utility pole and consultation with utility companies will determine if conduit can be placed beneath the trail for these lines.

- In terms of visibility from scenic roadways revised Code Subsection 66.2.4.C states that shared-use trails are excluded from the requirement that they be sited so as to not be visually evident. Specifically, this standard states, "All projects, excluding signs, …and pedestrian/bicycle paths, shall be sited in such a manner that they are not visually evident from the scenic highway."

The Project creates no negative affects to scenic roadways. The Project and trail features comply with TRPA goals, policies, standards, and guidelines for design and the visual quality along scenic corridors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

9. Would the Project be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines? (TRPA 18e)

No, with Mitigation. Standard of Significance: The SQIP requires that scenic roadway unit ratings be maintained. Six criteria define the ratings: 1) manmade features, 2) roadway physical distractions; 3) road structure; 4) views of Lake Tahoe; 5) landscape views and 6) variety. Impacts to these criteria may decrease scenic quality rating. The TRPA SQIP presents the prescriptions for scenic restoration required to attain and maintain the scenic quality thresholds. The program includes design review guidelines and development standards for different visual environments, assigns implementation responsibilities, and identifies potential funding sources.

The SQIP addresses the segment of SR 28 where the Project intersects with the existing TCPUD multi-use trail and crosses SR 28, identifying it as Roadway Unit 16 (Lake Forest) with a 16.5 Threshold Composite rating since 2001. The unit is in attainment. The SQIP promotes restoration of disturbed areas and requires that visual quality ratings be maintained and that non-attainment areas improve. Therefore, development that degrades this rating constitutes a significant impact.

The evaluation presented above for Question 5 concludes that while the Project produces some visibility of man-made features for a short portion of the scenic unit (approximately 260 feet), the effect is at a single intersection at an existing bus shelter area and not sufficient to reduce the overall unit rating (e.g., degradation of any of the rating criteria). However, a tree preservation mitigation measure is proposed to fully comply with SQIP recommendations for improving the scenic quality of Unit 16.

TRPA planning recommendations (Appendix B of the TRPA SQIP) for improving the scenic quality in the project area include improved landscaping near structures, specifically the commercial development at Dollar Drive, reforestation of large barren areas to the southwest of the commercial development, and addition of screening to the residential development on the opposite side of the road to reduce visibility of the units from the roadway. Wherever possible, overhead utility lines should be placed underground. These recommendations do not address the project area specifically. The Project implements these provisions at the intersection crossing with SR 28, in the parking area, and on revegetation areas that improve habitat functionality. Implementation of mitigation measures SR-1 and SR-2 ensure full compliance with the SQIP.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 5 for descriptions):

SR-1. Tree Protection and Avoidance Measures

SR-2. Visual Screening

10. Would the Project include new or modified sources of exterior lighting? (TRPA 7a)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact*.

Required Mitigation: **None**.

11. Would the Project create new illumination, which is more substantial than other lighting, if any, within the surrounding area? (TRPA 7b)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact*.

Required Mitigation: **None**.

12. Would the Project cause light from exterior sources to be cast off-site or onto public lands? (TRPA 7c)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact.*

Required Mitigation: **None**.

13. Would the Project create new sources of glare through the siting of the improvements or through the use of reflective materials? (TRPA 7d)

No. Standard of Significance: See analysis for Question 4, which addresses CEQA checklist item Id and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Signficiant Impact.*

Required Mitigation: **None.**

3.2.2 Agriculture and Forestry Resources

This section presents the analyses for potential impacts to agriculture and forestry resources. Some TRPA checklist items concern impacts to vegetation, which are addressed in Section 3.2.4, Biological Resources. Table 6 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 6

Agriculture and Forestry Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
14. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the CA Resources Agency, to a non-agricultural use? (CEQA IIa)				X
15. Conflict with existing zoning for agricultural use, or a Williamson Act contract? (CEQA IIb)				X
16. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g), timberland (as defined by Public Resource Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (CEQA IIc)			X	
17. Result in the loss of forest land or conversion of forest land to non-forest use? (CEQA IId)		X		
18. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (CEQA IIe)			X	

3.2.2.1 Environmental Setting

The project area contains no lands identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, zoned for agricultural use, or a Williamson Act contract.

The project area contains forestland, or timberlands, as defined by Public Resource Code (PRC) Section 4526.

The project area contains no timberland or timberland zoned Timberland Production, as defined by Government Code Section 51104(g).

3.2.2.2 Environmental Analysis and Mitigation Measures

14. Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to a non-agricultural use? (CEQA IIa)

Standard of Significance: Conversion of Prime Farmland, Unique Farmland or Farmland of Statewide importance (i.e., Farmland) to a non-agricultural use constitutes a significant impact.

The Project is not located in an area identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, and therefore poses no impact to such lands.

Environmental Analysis: *No Impact.*

Required Mitigation: **None**.

15. Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract? (CEQA IIb)

Standard of Significance: A conflict with areas zones for agricultural use under a Williamson Act contract constitutes a significant impact.

The Project creates no conflicts with zoning for agricultural use or a Williamson Act contract because no contracts exist within the project area.

Environmental Analysis: *No Impact.*

Required Mitigation: **None**.

16. Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g), timberland (as defined by Public Resource Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (CEQA IIc)

Standard of Significance: A conflict with existing zoning for forest land or timberland creates a significant impact. PRC Section 12220, Article 3 (g) defines "Forest land" as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows

for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. PRC Section 4526 defines "Timberland" as land, other than land owned by the federal government and land designated by the board as experimental forestland, which is available for, and capable of, growing a crop of tree of any commercial species used to produce lumber and other forest products, including Christmas trees.

The Project conflicts with no zoning of and causes no rezoning of forest land, timberland or timberland zoned Timberland Production because the portion of the Project requiring tree removal is a small subset of the total project area and tree removal is not concentrated, but instead spread out along the 2.2 mile Project area and trail corridor.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

17. Would the Project result in the loss of forest land or conversion of forest land to non-forest use? (CEQA IId)

Standard of Significance: The loss of substantial forest land, defined above for Question 16, or conversion of forest land to non-forest use creates a significant if appropriate permits are not obtained.

The Project transects forested lands and provides access, but results in no loss of areas designated as forest land or conversion of forest land to non-forest use by nature of passing through such areas. Question 41 provides analysis of tree removal within the project area. However, because the Project affects more than three (3) acres, as described below in mitigation measure AGR-1, compliance with Calfire exemption requirements will be necessary to reduce potential impacts to forest land to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation*

Required Mitigation:

AGR-1. Public Agency Right-Of-Way Exemption with Calfire

The Project Applicant shall file a Public Agency Right-of-Way exemption with Calfire to comply with requirements for conversion of Timberland for installation of public service projects. Tree removal shall occur along the trail corridor and be completed within one year of filing by a Registered Professional Forester and a Licensed Timber Operator.

18. Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (CEQA IIe)

Standard of Significance: See analyses for Questions 15, 16 and 17, which address CEQA checklist items IIb, IIc, and IId, respectively, and conclude no impacts to farmland and less than significant impacts to forest land after mitigation.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

3.2.3 Air Quality

This section presents the analyses for potential impacts to air quality. Table 7 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 7

Air Quality

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
19. Conflict with or obstruct implementation of the applicable air quality plan? (CEQA IIIa)			X	
20. Violate any air quality standards or contribute substantially to an existing or projected air quality violation? (CEQA IIIb)		X		
21. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors? (CEQA IIIc)			X	
22. Expose sensitive receptors to substantial pollutant concentrations? (CEQA IIId)			X	
23. Create objectionable odors affecting a substantial number of people? (CEQA IIIe)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
24. Substantial air pollutant emissions? (TRPA 2a)				X
25. Deterioration of ambient (existing) air quality? (TRPA 2b)		X		

26. Creation of objectionable odors? (TRPA 2c)				**X**
27. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)				**X**
28. Increased use of diesel fuel? (TRPA 2e)		**X**		

3.2.3.1 Environmental Setting

Federal, State, and regional standards apply to protect air quality within this project area, which is contained within the Lake Tahoe Air Basin. The air quality management agencies in the Lake Tahoe portion of Placer County include the US Environmental Protection Agency (USEPA), California Air Resources Board (CARB), Placer County Air Pollution Control District (PCAPCD) and TRPA. The USEPA establishes National Ambient Air Quality Standards (NAAQS) for which the CARB and PCAPCD have primary implementation responsibility.

Placer County. Under authority granted by the CARB, the PCAPCD manages air quality within Placer County, ensuring that California Ambient Air Quality Standards (CAAQS) are met. The PCAPCD is a special district created by state law to enforce air pollution regulations developed at the federal, state and local level and is one of 35 local air districts established pursuant to Section 40002 of the California Health and Safety Code (HSC). Placer County's Environmental Review Ordinance (County Ordinance Chapter 18) provides guidance regarding assessment of air quality impacts under CEQA.

District Rule 228, Fugitive Dust, establishes standards that must be met by activities generating fugitive dust. Rule 228 applies to the entire County and addresses fugitive dust generated by construction and grading activities and by other land use practices including recreational uses. Examples of dust sources that are subject to Rule 228 are excavating and trenching, drilling, boring, earthmoving and grading operations, pavement cutting operations, brush clearing, travel on unpaved roads within construction sites and wind-blown dust from unprotected grading areas and stockpiles. Rule 228 prohibits visible dust crossing project area boundaries, generation of high levels of visible dust (i.e., dust sufficient to obscure vision by 40%) and places controls on the track-out of dirt and mud on public roads. The rule also established minimum dust mitigation and control requirements that must be uses for all construction and grading activities.

TRPA. TRPA implements its own set of air quality standards and ordinances, including eight air quality standards and indicators adopted to protect air quality in the Lake Tahoe Air Basin. The TRPA/Tahoe Metropolitan Planning Organization (TMPO) RTP adopted in 2008 and called Mobility 2030, establishes policies, project implementation plans, and funding strategies to shape the Tahoe Region's transportation network so that environmental goals and thresholds are met. The RTP includes an analysis of its conformity with the California State Implementation Plan (SIP) to ensure that the RTP remains consistent with state and local air quality planning efforts to achieve and/or maintain the National Ambient Air Quality Standards (NAAQS).

TRPA Code provisions establish regulatory controls to implement Regional Plan policies. Code provisions relevant to the Project include TRPA revised Code Chapter 65 which establishes air quality control requirements to aid in the implementation of TRPA air quality goals and policies for the purpose of attaining and maintaining applicable federal and state air quality standards and TRPA thresholds.

U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB). The federal Clean Air Act (CAA), enacted in 1963 and amended several times thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. In response to the CAA, federal and state governments have established ambient air quality standards for seven criteria pollutants, all of which occur in the LTAB: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than or equal to 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). Air quality regulations focus on the following air pollutants because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as "criteria air pollutants." Monitoring stations are located at the South Lake Tahoe Airport (1901 Airport Rd South Lake Tahoe CA 96150), South Lake Tahoe –Sandy Way (3337 Sandy Way, South Lake Tahoe CA 96150), and Truckee (10046 Donner Pass Road, Truckee CA 96161 – located north of the project area in the Mountain Counties Air Basin).

Monitoring results report occasional violations of the 8-hour ozone and $PM_{2.5}$ ambient air quality standards during a three-year period from 2006-2008, the most recent and available data representation of existing air quality conditions within the Lake Tahoe Air Basin.

National and California ambient air quality standards (NAAQS and CAAQS, respectively) are shown in Table 8. Given the unique climatic conditions within the Lake Tahoe Air Basin, the TRPA has established a standard for 8-hour CO, which is more stringent than both state and national regulations.

Ozone and NO_2 (an ozone precursor) are considered regional pollutants because they affect air quality on a regional scale; oxides of nitrogen (NO_X), including NO_2, react photochemically with reactive organic gases (ROG) to form ozone some distance downwind of the source of pollutants. Pollutants such as CO, PM_{10}, and $PM_{2.5}$ are local pollutants because they tend to disperse rapidly with distance from the source. PM_{10}, and $PM_{2.5}$ are regional pollutants that travel and impact downwind areas.

Table 8

Ambient Air Quality Standards Applicable in California

Pollutant	Symbol	Average Time[a]	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
Ozone[b]	O_3	1 hour	0.09	NA	180	NA	If exceeded	NA
		8 hours	0.070	0.075	137	147	If exceeded	If fourth highest 8-hour concentration in a year, averaged over 3 years, is greater than the standard
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year

Pollutant	Symbol	Average Time[a]	Standard (parts per million)		Standard (micrograms per cubic meter)		Violation Criteria	
			California	National	California	National	California	National
(Lake Tahoe only)		8 hours	6	NA	7,000	NA	If equaled or exceeded	NA
Nitrogen dioxide	NO_2	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.18	0.100	339	188	If exceeded	NA
Sulfur dioxide	SO_2	3 hour	NA	0.5	NA	1,3000	NA	If exceeded
		24 hours	0.04	NA	105	NA	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.25	0.075	655	196	If exceeded	NA
Hydrogen sulfide	H_2S	1 hour	0.03	NA	42	NA	If equaled or exceeded	NA
Vinyl chloride	C_2H_3Cl	24 hours	0.01	NA	26	NA	If equaled or exceeded	NA
Inhalable particulate matter	PM10	Annual arithmetic mean	NA	NA	20	NA	If exceeded	NA
		24 hours	NA	NA	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual arithmetic mean	NA	NA	12	15.0	If exceeded	If 3-year average of the weighted annual mean from single or multiple community-oriented monitors exceeds the standard
		24 hours	NA	NA	NA	35	NA	If less than 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard
Sulfate particles	SO_4	24 hours	NA	NA	25	NA	If equaled or exceeded	NA
Lead particles	Pb	Calendar quarter	NA	NA	NA	1.5	NA	If exceeded no more than 1 day per year
		30-day average	NA	NA	1.5	NA	If equaled or exceeded	NA
		Rolling 3-Month average	NA	NA	NA	0.15	NA	Averaged over a rolling 3-month period

Source: CARB 2008

Notes: National standards shown are the primary (Public Health) standards. Equivalent units are based upon a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr; parts per million in this table refers to parts per million by volumes or micromoles of pollutant per mole of gas.

NA = not applicable.

[a] Time period over which air pollutant concentrations are averaged for the purpose of determining attainment with the NAAQS and CAAQS.

[b] The EPA replaced the 1-hour O_3 standards with an 8-hour standard of 0.08 ppm. EPA issued a final rule that revoked the 1-hour standard on June 15, 2005. However, the California 1-hour O_3 standard remains in effect.

3.2.3.2 Environmental Analysis and Mitigation Measures

19. Would the Project conflict with or obstruct implementation of the applicable air quality plan? (CEQA IIIa)

Standard of Significance: A significant impact occurs if the Project conflicts with standards identified by the PCAPCD or in the RTP (TRPA/TMPO 2008).

The RTP includes an analysis of its conformity with the California SIP to ensure that the RTP remains consistent with State and local air quality planning efforts to achieve and/or maintain the NAAQS. The SIP demonstrates how the Lake Tahoe Air Basin will continue to maintain compliance with the federal 8-hour CO standard. A project is typically deemed inconsistent with air quality plans if it results in population and/or employment growth that exceed growth estimates included in the applicable planning documents and therefore generates emissions not accounted for in the emissions budget. The Project does not result in additional population or employment growth.

The Project does not conflict with or obstruct implementation of applicable air quality plans and therefore has a less than significant impact.

Construction Emissions. Analysis presented for Question 20 below demonstrates that Project construction will not exceed emission thresholds through conformance to District Rule 228.

Operational Emissions. Analysis presented for Question 142 demonstrates that the Project operation will not significantly increase overall VMT and therefore maintains long-term operational emissions and avoids impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

20. Would the Project violate any air quality standards or contribute substantially to an existing or projected air quality violation? (CEQA IIIb)

Standard of Significance: A significant long-term (e.g. operational) impact results if the Project causes violations of air quality standards listed in Table 8 or contributes substantially to an existing or projected air quality violation. As identified by CARB, the District and TRPA, a significant short-term (e.g., construction related) air quality impact results if construction-generated emissions of ROG (reactive organic gases), NO_X (oxides of nitrogen), PM_{10} (particulate matter less than 10 microns in size), or SO_2 exceed mass emissions of 82 lb/day, or construction-generated emissions of CO (carbon monoxide) exceed mass emissions of 550 lb/day.

Short-term. Short-term, temporary effects to air quality occur during construction activities. Construction of the Project involves use of equipment and paving materials that emit ozone precursor emissions (ROG and NOx), as well as the emission of other criteria pollutants from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for these activities vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NOx from these emission sources incrementally add to the regional atmospheric loading of ozone precursors during Project construction. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod; accessed at www.caleemod.com/). Table 9 presents the modeling results and significance conclusions and Appendix G outlines model assumptions and information. Daily construction emissions were calculated and compared to the threshold criteria for a 2.2-mile shared-use trail for determination of any increase above District air quality standards emissions greater than 82 pounds per day of ROG, NO_x, SO_2 and PM_{10} and emissions greater than 550 pounds per day of CO. The Project produces no daily emissions that will exceed construction emission limits.

Table 9

Peak Day Construction-Related Emissions (lbs/day)[1]

	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2
Construction Emissions (Unmitigated)	12	80	53	12	9	<1
PCAPCD Threshold	82	82	550	82	N/A	N/A
Exceed Threshold?	**No**	**No**	**No**	**No**	**N/A**	**N/A**

Source: ESA 2012

1 Emissions were modeled using CalEEMod and assume default equipment and worker assumptions for the grading (2.2 miles long by 30 feet wide) and paving (2.2 miles long by 14 feet wide) of the Project area. Duration of construction is assumed to be over approximately 132 work days through the summer, based on the assumption that 100 linear feet of trail would be completed per day.

Although the Project will not generate emissions during construction that exceeds the PCAPCD thresholds, due to the non-attainment status of the air basin with respect to ozone and PM10, the PCAPCD recommends that projects implement a set of construction mitigation measures as best management practices regardless of the significance determination. Construction along the trail alignment is subject to District Rule 228 - Fugitive Dust construction requirements. To avoid or minimize potential air quality impacts during construction, conformance to District Rule 228 will be required through implementation of mitigation measure AQ-1. Within the project area, few limitations to typical dust control plan elements exist.

Long-term. The Project constructs an alternative transportation route that is not accessible to motorized vehicles or other modes of transportation that emit emissions outlined in Table 8 and thus results in no long-term or operational impacts to air quality, as supported by VMT and daily trip calculations demonstrated in Question 142. The exception would be a North Tahoe Fire Protection District (NTFPD) emergency response vehicle should it be necessary to access an accident.

The Project results in a net increase of 117 vehicle-miles travelled (VMT) per day (Appendix D) resulting from the portion of trail users expected to drive to trail access areas. Operational emissions were estimated using CalEEMod. Table 10 presents the modeling results and significance conclusions and

Appendix G outlines model assumptions and information. Long-term operational emissions of the Project are less than significant.

Table 10

Peak Day Operation-Related Emissions (lbs/day)[1]

	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2
Construction Emissions (Unmitigated)	<1	<1	2	<1	<1	0
PCAPCD Threshold	82	82	550	82	N/A	82
Exceed Threshold?	**No**	**No**	**No**	**No**	**N/A**	**No**

Source: ESA 2012

1 Emissions were modeled using CalEEMod and assume default equipment and worker assumptions for the grading (2.2 miles long by 30 feet wide) and paving (2.2 miles long by 14 feet wide) of the Project area. Duration of construction is assumed to be over approximately 132 workdays through the summer, based on the assumption that 100 linear feet of trail is constructed each day.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

The Project Applicant shall implement standard dust mitigation and controls required by Placer County Air Pollution Control District Rule 228 - Fugitive Dust. Rule 228 applies to the entire County and addresses fugitive dust generated by construction and grading activities and by other land use practices including recreational uses. Examples of dust sources that are subject to Rule 228 are excavating and trenching, drilling, boring, earthmoving and grading operations, pavement cutting operations, brush clearing, travel on unpaved roads within construction sites and wind-blown dust from unprotected grading areas and stockpiles. Rule 228 prohibits visible dust crossing project area boundaries, generation of high levels of visible dust (i.e., dust sufficient to obscure vision by 40%) and places controls on the track-out of dirt and mud on public roads. The rule also established minimum dust mitigation and control requirements that must be uses for all construction and grading activities.

When an area to be disturbed is greater than one acre, and if required by a Condition of Approval of a discretionary permit, a dust control plan (DCP) shall be submitted to and approved by the District prior to construction that identifies fugitive dust control strategies and construction BMPs to avoid track-out, protect existing vegetation and properly maintain stockpiles. The dust control plan instructions shall contain a DCP Application form. Completion of this application and subsequent approval by the District shall satisfy requirements to have a dust control plan. Failure to implement the plan is subject to enforcement through the Conditions of Approval, and by the District through Rule 228.

Within the project area, few limitations to typical DCP elements exist. Site watering shall occur to avoid spray beyond the project area in those locations with narrow right-of-way (e.g. where residences or other structures lie close to the project area). Additionally, equipment washing shall

occur on high capability land with the discharge contained to avoid runoff. AQ-1 shall also meet the requirements stated in mitigation measure GEO-5.

AQ-2. PCAPCD Recommended Construction Measures

The County shall require the construction contractor(s) to implement the following construction control measures:

- Site watering shall occur to avoid spray beyond the project area in those locations with narrow right-of-way (e.g. where residences or other structures lie close to the project area). Additionally, equipment washing shall occur on high capability land with the discharge contained to avoid runoff.
- Construction equipment exhaust emissions shall not exceed PCAPCD Rule 202 Visible Emission limitations. Operators of vehicles and equipment found to exceed opacity limits shall cease operations immediately.
- The prime contractor shall be responsible for keeping adjacent public thoroughfares clean of silt, dirt, mud, and debris, and shall “wet broom” the streets (or use another method to control dust as approved by the individual jurisdiction) if silt, dirt, mud or debris is carried over to adjacent public thoroughfares.
- During construction, traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less.
- In order to minimize wind driven dust during construction, the prime contractor shall apply methods such as surface stabilization, establishment of a vegetative cover, paving, (or use another method to control dust as approved by the lead agency).
- The prime contractor shall suspend all grading operations when wind speeds (including instantaneous gusts) are excessive and dust is impacting adjacent properties.
- Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.
- During construction, no open burning of removed vegetation shall be allowed unless permitted with PCAPCD. All removed vegetative material shall be either chipped on site or taken to an appropriate recycling site, or if a site is not available, a licensed disposal site.
- Processes that discharge two (2) pounds per day or more of air contaminants, as defined by Health and Safety Code Section 39013, to the atmosphere may require a permit. Developers/contractors shall contact the PCAPCD prior to construction or use of equipment and obtain any necessary permits.
- Prior to approval of Grading or Improvement Plans, (whichever occurs first), on project sites greater than one acre, the applicant shall submit a Construction Emission / Dust Control Plan to the PCAPCD. If the PCAPCD does not respond within twenty (20) days of the plan being accepted as complete, the plan shall be considered approved. The applicant shall provide written evidence, provided by the PCAPCD, to the local jurisdiction (city or county) that the plan has been submitted to the PCAPCD. It is the responsibility of the applicant to deliver the approved plan to the local jurisdiction. The applicant shall not break ground prior to receiving PCAPCD approval, of the Construction Emission / Dust Control Plan, and delivering that approval to the local jurisdiction issuing the permit.

- Include the following standard note on the Grading Plan or Improvement Plans: The prime contractor shall submit to the PCAPCD a comprehensive inventory (e.g., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that will be used in aggregate of 40 or more hours for the construction project. If any new equipment is added after submission of the inventory, the prime contractor shall contact the PCAPCD prior to the new equipment being utilized. At least three business days prior to the use of subject heavy-duty off-road equipment, the Project representative shall provide the PCAPCD with the anticipated construction timeline including start date, name, and phone number of the property owner, project manager, and on-site foreman.
- Prior to approval of Grading or Improvement Plans, whichever occurs first, the applicant shall provide a written calculation to the PCAPCD for approval demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet average of 20% of NOx and 45% of DPM reduction as compared to CARB statewide fleet average emissions. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
- Include the following standard note on the Improvement/Grading Plan: During construction the contractor shall utilize existing power sources (e.g., power poles) or clean fuel (e.g., gasoline, biodiesel, natural gas) generators rather than temporary diesel power generators.
- Include the following standard note on the Improvement/Grading Plan: During construction, the contractor shall minimize idling time to a maximum of 5 minutes for diesel-powered equipment.

21. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (CEQA IIIc)

Standard of Significance: The Region is in non-attainment for Ozone and PM_{10}, as presented in Table 11. A significant cumulative impact results if the Project causes an increase in PM_{10} and Ozone.

Table 11

Federal and State Attainment Status for the Lake Tahoe Air Basin

Pollutant	State Status	Federal Status
8-Hour Ozone	Nonattainment	Attainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Attainment	Attainment
CO	Attainment	Attainment/Moderate Maintenance for the North Lake Tahoe Shore

Source: EPA 2011; ARB 2010b.

In the Lake Tahoe Region, these pollutants relate to automobile use and potential impacts measured with VMT calculations. According to the PCAPCD, no single project is sufficient in size to, by itself, result in

nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The LTAB is in non-attainment with respect to ozone and PM10. As discussed for Question 20, criteria pollutant emissions associated with construction and operation of the Project result in less than significant impacts based on the individual Project thresholds. In addition, the PCAPCD has adopted an operational cumulative threshold of 10 lbs/day of ROG or NOx (applies during summer months only). Long-term operational emissions of the Project are less than significant. Therefore, the Project does not contribute to cumulatively considerable increase in criteria pollutants and the impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

22. Would the Project expose sensitive receptors to substantial pollutant concentrations? (CEQA IIId)

Standard of Significance: A sensitive receptor defines a location where human populations, especially children, seniors, and sick persons are found with a reasonable expectation of continuous human exposure according to the averaging period for ambient air quality standards. Typical sensitive receptors include residences, hospitals, and schools. A significant impact results from increases in CO that cause exceedance of NAASQS and CAAQS and diesel exhaust emissions (DPM) (note that there is no quatitative threshold for DPM).

Short-term. Construction of the Project results in short-term emissions of air pollutants from temporary ground disturbance associated with site excavation, construction equipment exhaust operating at the construction site(s), construction worker vehicles and supply trucks, and from traffic impacts resulting from construction worker vehicle and construction equipment movements along streets. These emissions are temporary and localized and cease once construction activities have been completed in the specific project area location. Construction creates short-term DPM, which are toxic air contaminants (TACs), from on-site heavy-duty equipment. Project construction generates DPM emissions from the use of off-road diesel equipment required for construction activities.

Exposure of sensitive receptors is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. A longer exposure period results in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project. Thus, the duration of the proposed construction activities (approximately 6 months) constitutes a small percentage of the total 70-year exposure period. DPM from construction activities are not anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards and it is not anticipated that the construction of the Project results in significant short-term impacts to sensitive receptors.

Long-term. The North Tahoe High School is approximately one-mile west of the project area and more than one-mile from the proposed crossing at Dollar Drive and SR 28. The Project, as a non-motorized transportation feature, introduces no new emission sources associated with use of the shared-use trail and thus creates no impact to this sensitive receptor.

Implementation of the Project results in little to no vehicle delay or queuing. The nearest sensitive receptors to this location are residences located in the Dollar Drive subdivision, immediately west and east of the trail crossing. At this low volume of queuing associated with the Project, there is no measureable change to existing 24-hour air quality emissions. In addition, the long-term operation of the Project results in no sources of toxic air emissions. As a result, the Project will not expose sensitive receptors to substantial TAC emissions and the impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

23. Would the Project create objectionable odors affecting a substantial number of people? (CEQA IIIe)

Standard of Significance: A significant impact results if Project construction or operation creates objectionable odors affecting a substantial number of people.

The occurrence and severity of odor effects depend on the nature, frequency, and intensity of the odor source, wind speed and direction, and the presence of sensitive receptors. Offensive odors rarely cause physical harm, but odors can be unpleasant and generate citizen complaints to regulatory agencies and local governments. Typical sensitive receptors include residences, hospitals, and schools. There are residences along a portion of the Project alignment and commercial located at the proposed intersection at SR 28 and Dollar Drive.

As a general matter, the types of land use development that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities and transfer stations. No such uses occupy the project area. Over the long-term, CEQA checklist item III-e is not applicable to the Project because there are no sources of objectionable odors associated with Project operations.

In the short-term, odor impacts occur from the use of diesel engines and asphalt concrete paving during construction. As stated in the discussion of short-term impacts to sensitive receptors under Question 22 above, these odors are both temporary and localized, affecting only the area immediately adjacent to the active construction area. Construction activities along the 2.2-mile project area generate odors during initial grading and site preparation and during paving at the completion of construction. Diesel exhaust emissions and asphalt concrete paving odors dissipate rapidly away from the source and cease upon completion of construction activities. Thus, the Project does not result in substantial direct or indirect exposure of sensitive receptors to offensive odors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

24. Would the Project result in substantial air pollutant emissions? (TRPA 2a)

No. See analysis for Question 22, which addresses CEQA checklist item IIId and concludes a less than significant impact on air pollutant emissions.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

25. Would the Project result in deterioration of ambient (existing) air quality? (TRPA 2b)

No, with mitigation. See analysis for Question 20, which addresses CEQA checklist Item IIIb and concludes a less than significant impact to ambient air quality after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (see Question 20 for description):

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

AQ-2. PCAPCD Recommended Construction Measures

26. Would the Project result in creation of objectionable odors? (TRPA 2c)

No. See analysis for Question 23, which addresses CEQA checklist item IIIe for the creation of objectionable odors and concludes a less than significant odor impact to short-term and long-term effects to sensitive receptors.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

27. Would the Project result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)

No. Standard of Significance: A significant impact occurs if the Project CO_2 or methane emissions exceed 500 tons/year and/or the concentration of resultant tree removal changes habitat categorization.

Greenhouse Gas Emissions (GHGs) associated with Project construction and operations were modeled with CalEEMod, as detailed in Appendix G. Construction equipment, haul trucks, and worker vehicles generate GHGs. Model results estimate a maximum annual GHGs of approximately 477 metric tons of CO_2e emitted during the year of construction.

As recommended by the PCAPCD (PCAPCD 2012) for long-term operations, the BAAQMD threshold of 1,100 metric tons per year CO_2e from sources other than permitted stationary sources (BAAQMD 2011) was applied to this Project. As shown in Appendix G, GHG emissions generated by on-road mobile sources associated with trailhead parking equate to approximately 21 metric tons of CO_2 per year. Project operations will not exceed the applied BAAQMD GHG threshold and are less than significant.

The Project includes no activities or facilities that generate heat or moisture.

Question 41 addresses tree removal as an effect to habitat alterations, concluding that tree removal within the project area creates no impact to habitat categorization. The removal of select trees along the shared-use trail does not create reductions in forest canopy sufficient to increase local solar gain, raise temperatures or create microclimate changes.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

28. Would the Project result in increased use of diesel fuel? (TRPA 2e)

No, with mitigation. Standard of Significance: The increased use of diesel fuel that results in objectionable odors results in a significant impact to sensitive receptors within and downwind of the project area.

See the analysis for Question 23, which addresses CEQA checklist item IIIe for the creation of objectionable odors and concludes that the level of impact from the Project is less than significant to short-term and long-term odor impacts to sensitive receptors.

Diesel exhaust is produced when an engine burns diesel fuel. It is a complex mixture of thousands of gases and fine particles (commonly known as soot) that contains more than 40 toxic air contaminants. These include many known or suspected cancer-causing substances, such as benzene, arsenic and formaldehyde. It also contains other harmful pollutants, including nitrogen oxides. Diesel exhaust particles and gases are suspended in the air, so exposure to this pollutant occurs whenever a person breathes air that contains these substances. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat and lungs, and it can cause coughs, headaches, lightheadedness and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

Some Project construction activities use diesel-powered equipment, creating a short-term increase in diesel fuel usage over the active construction period, as discussed for Question 20. This short-term increase does not contribute significantly towards violations of air quality standards or create concentrations of adverse odors since construction equipment must pass vehicle emissions standards and the Project implements PCAPCD recommended construction measures (mitigation measure AQ-2).

TRPA Checklist Item 2c is not applicable to the Project during the operational phase because of the subsequent project-related reduction in fossil fuel use upon implementation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 20 for description):

AQ-2. PCAPCD Recommended Construction Measures

3.2.4 Biological Resources (Stream Environment Zones, Wetlands, Wildlife and Vegetation)

This section presents the analyses for potential impacts to biological resources, including impacts to SEZs, wetlands, wildlife and vegetation. Table 12 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 12

Biological Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
29. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (CEQA IVa)		X		
30. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (CEQA IVb)			X	
31. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (CEQA IVc)		X		
32. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (CEQA IVd)		X		
33. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? (CEQA IVe)			X	
34. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (CEQA IVf)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
35. Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system? (TRPA 4a)				X
36. Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table? (TRPA 4b)		X		
37. Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species? (TRPA 4c)		X		
38. Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)? (TRPA 4d)				X
39. Reduction of the numbers of any unique, rare or endangered species of plants? (TRPA 4e)		X		
40. Removal of streambank and/or backshore vegetation, including woody vegetation such as willows? (TRPA 4f)	X			
41. Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications? (TRPA 4g)		X		
42. A change in the natural functioning of an old growth ecosystem? (TRPA 4h)				X
43. Change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)? (TRPA 5a)				X
44. Reduction of the number of any unique, rare or endangered species of animals? (TRPA 5b)		X		
45. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? (TRPA 5c)		X		
46. Deterioration of existing fish or wildlife habitat quantity or quality? (TRPA 5d)		X		

3.2.4.1 Environmental Setting

Natural Environment Study. Appendix H contains the Natural Environment Study (NES) for the Biological Study Area (BSA). The BSA aligns with the project area defined in Chapter 2, Project Description. A NES describes the existing biological environment and how project alternatives affect that

environment. The NES summarizes technical documents (e.g., focused species studies, wetland assessments, biological assessments, etc.) related to effects on biological resources in the (BSA for use in environmental documentation. The environmental setting subsections below summarize the findings of the NES.

Physical Conditions. Elevations in the BSA range from approximately 6,500 ft above msl to approximately 6,700 above msl. Adjacent land use is characterized by rural residential development to the south and east, Burton State Park to the west and National Forest Land to the north of the BSA. Within the BSA, natural topography gently slopes from west to east and drains to the east through Dollar Creek.

The Tahoe Basin, situated east of the Sierra Nevada Crest, lies within the eastern portion of the Sierra Nevada Geomorphic Province. The Sierra is a tilted fault block nearly 645 km (400 mi) long. Its east face is a high, rugged multiple scarp, contrasting with the gentle western slope. Cenozoic volcanic rocks predominate in this subsection. There are some Mesozoic granitic rocks, Jurassic marine sedimentary rocks, and Jurassic and older metavolcanic rocks. The Cenozoic volcanic rocks are mostly Pliocene andesite, basalt and pyroclastic rocks and Pleistocene basalt (USDA Forest Service 1997).

Dollar Creek, a natural, perennial waterway, flows in a southeasterly direction from the eastern flank of Mt. Watson. Dollar Creek crosses SR 28 to the east of the BSA and flows into Lake Tahoe. The outflow of water from Lake Tahoe is confined to the Truckee River. The Truckee River originates at the outlet of the dam at Lake Tahoe near Tahoe City and flows eastward to its terminus at the topographically closed Pyramid Lake in Nevada. The Truckee River headwaters, where altitudes exceed 3,049 m (10,000 ft) above msl, flow into Lake Tahoe. Runoff generated in the Lake Tahoe and upper Truckee River subunit supplies most of the water to the Truckee River system. Truckee River flows are heavily dependent on the yearly snowpack of the Sierra Nevada, with high flows generally occurring in the spring or early summer.

Biological Conditions. HBA biologists Garth Alling and botanist Amy Parravano conducted a reconnaissance survey of the BSA in June of 2011. Calculated areas of wildlife habitats and vegetation communities delineated within the BSA are shown in Table 13. Within the BSA natural topography gently slopes from west to east. Overall, the BSA has been relatively undisturbed with the exception of unpaved trails and roadways and installation of the dam on Dollar Creek to create a reservoir that was used for ice harvesting in the early 1900's.

Wildlife habitats were classified using the CDFG's *A Guide to Wildlife Habitats* (Mayer and Laudenslayer 1988), which is integrated with the California Wildlife Habitat Relationships (CWHR) System. Wildlife habitats generally correspond to plant communities. Plant communities are assemblages of plant species that occur together and are repeated across landscapes, and each community type is defined by plant species composition and relative abundance. The wildlife habitat types were converted to natural community types (using *Preliminary Descriptions of the Terrestrial Natural Communities of California* – Holland 1986) in order to facilitate the impact analysis of any rare natural communities that may be present in the BSA. Wildlife habitats in the BSA include Jeffery pine forest, montane chaparral, and montane riparian. The BSA also includes portions of the perennial Dollar Creek, and associated/adjacent riparian wetlands.

Table 13

Habitat Types within the Biological Study Area

CDFG/CWHR Habitat Type	Area (ac)	Percentage of BSA Area
Sierran Mixed Coniferous Forest	252.98	98%
Montane Chaparral	3.76	1.4%
Montane Riparian (Wetland)	0.52	0.3%
Riverine (Dollar Creek)	0.83	0.3%
Total	258.09	100%

Source: HBA 2012

Sierran Mixed Coniferous Forest Vegetation. Sierran mixed montane coniferous forest occurs on shallow, well-drained granitic soils in montane habitats up to approximately 7,000 ft msl. Within the BSA, this community is generally dominated by Jeffrey pine (*Pinus jeffreyi*) and white fir (*Abies concolor*), with occasional sugar pine (*Pinus lambertiana*), ponderosa pine (*Pinus ponderosa*), red fir (*Abies magnifica*), and incense cedar (*Calocedrus decurrens*) in the overstory, and lodgepole pine (*Pinus contorta* ssp. *murrayana*) in the subcanopy. Common understory herbaceous species include mule's ears (*Wyethia mollis*), mountain snowberry (*Symphoricarpos rotunidifolius* var. *rotundifolius*), diffuse gayophytum (*Gayophytum diffusum* var. *parviflorum*), squirreltail (*Elymus elmoides*), and blue wildrye (*Elymus glaucus*). The forest structure tends to be characterized by several age classes and has a well-developed understory. Mammals associated with this habitat include black-tail deer (*Odocoileus hemionus columbianus*), mule deer (*Odocoileus hemionus*), white-tailed jackrabbit (*Lepus townsendii*), black bear (*Ursus americanus*), mountain lion (*Puma concolor*), coyote (*Canis latrans*), bobcat (*Lynx rufus)*, porcupine (*Erethizon dorsatum)*, and various bat species. Common birds include the red-tailed hawk (*Buteo jamaicensis*), stellar jay (*Cyanocitta stelleri*), California quail (*Callipepla californica*), and mountain chickadee (*Poecile gambeli)*

Montane Chaparral. Montane chaparral habitat type typically occurs on rocky, granitic southern and western exposures, and is located along the west facing slopes on the east most portion of the BSA. Montane chaparral plants possess the typical characteristics of drought-adapted species: small, leathery, often evergreen leaves and deep taproot systems that exploit fissures in the weathering bedrock to access groundwater after surface moisture has disappeared. Patches of montane chaparral occur in forest canopy openings in the BSA, including species such as pinemat manzanita (*Arctostaphylos nevadensis*), greenleaf manzanita (*A. patula*), tobacco brush (*Ceanothus velutinus*), mountain whitethorn (*C. cordulata*), and bitterbrush (*Purshia tridentata*), with occasional Sierra chinquapin (*Chrysolepis sempervirens*) and huckleberry oak (*Quercus vaccinifolia*) occurring among occasional rock outcrops. Animals associated with this habitat are similar to the Jeffrey pine habitat.

Riverine (Perennial Drainage). Riverine habitat within the BSA is located along Dollar Creek within the BSA. Riverine habitat associated with the Dollar Creek supports adjacent riparian and seasonal wetlands. Dollar Creek has suitable habitat for the Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi*). This federally threatened species historically occurred in all accessible cold waters of the Lahontan Basin in a

wide variety of water temperatures and conditions, and requires gravel riffles in streams for spawning. Other native fish species include the Tahoe sucker (*Catostomus tahoensis*) and the speckled dace (*Rhinichthys osculus*). Nonnative introduced salmonids also occur within Lake Tahoe and associated tributaries including rainbow trout (*Oncorhynchus mykiss*), brook trout (*Salvelinus fontinalis*), and brown trout (*Salmo trutta*).

Montane Riparian. The vegetation of montane riparian zones is quite variable and often structurally diverse. At the project area the montane riparian zone occurs as a narrow, dense grove of broad-leaved, winter deciduous trees and shrubs as well as occasional evergreen trees with a grassy understory along the banks of Dollar Creek. Streamside riparian vegetation is composed of mountain alder (*Alnus incana ssp. tenuifolia*) and creek dogwood (*Cornus sericea ssp. sericea*). Wetland vegetation along the perennial stream benches in the BSA provides patchy tree and shrub layers dominated by willow and interspersed by hydrophytic sedge and grass species such as creeping bentgrass (*Agrostis stolonifera*), and Nebraska sedge (*Carex nebrascensis*), Baltic rush (*Juncus balticus*).

Riparian habitats have an exceptionally high value for many wildlife species. Such areas provide water, thermal cover, migration corridors, and diverse nesting and feeding opportunities. The shape of many riparian zones, particularly the linear nature of streams, maximizes the development of ecotones, which are highly productive for wildlife. A wide range of amphibians, reptiles, birds, and mammals utilize montane riparian habitat for food, cover and reproduction. Riparian wetland provides forage and cover for reptiles, such as lizards and common garter snakes (*Thamnophis sirtalis*), as well as birds, including yellow warbler (*Dendroica petechia*), American robin (*Turdus migratorius*), and mountain chickadee. Small mammals such as voles and mice may also use this habitat.

Special-Status Species. Special-status wildlife and fish species (Table 14) are species that have been afforded special recognition and protection by federal, State, or local resource conservation agencies and organizations. These species are generally considered rare, threatened, or endangered due to declining or limited populations. Special-status species include:

- Animals that are legally protected or proposed for protection under the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA);
- Animals defined as endangered or rare under CEQA;
- Animals designated as species of special concern by the CDFG;
- Animals designated as species of concern by the USFWS;
- Animals listed as “fully protected” in the Fish and Game Code of California (Sections 3511, 4700, 5050 and 5515);
- Animals designated as special interest species by the TRPA;
- Plants that are legally protected or proposed for protection under the CESA or FESA;
- Plants defined as endangered or rare under CEQA;
- Plants designated as species of concern by the USFWS;
- Plants listed in the California Native Plant Society’s Inventory of Rare and Endangered Plants of California (2001); and
- Plants designated as special interest species by the TRPA.

Figure 18. Project Area Habitats

Prior to conducting the field survey as noted in the Natural Environment Study (NES) (Appendix H), a list of special-status plants and wildlife known to potentially occur within the vicinity of the Project was reviewed. Sources consulted in preparation of the list of target plant taxa included the California Natural Diversity Database (CNDDB) (CDFG 2011), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2011). Sources consulted for fish and wildlife species included the CNDDB (Appendix H attachment), a USFWS list of potentially affected federally threatened and endangered species (USFWS 2010a), and Zeiner (1988, 1990). The list was then used to focus the botanical and wildlife field investigations on the targeted species and the habitats known to support these species. Additional reference data used in the preparation of this report includes the following:

- Tahoe City, California 7.5-minute topographic quadrangle (USGS)
- Special Plants List (CDFG 2009a)
- Special Animals List (CDFG 2009b)
- Federally listed threatened, endangered, or candidate species
- TRPA special interest, threatened, endangered or rare species (TRPA revised Code Chapter 62)

Project-level Surveys. The following surveys have been completed for the project area:

- Special-status plants;
- Noxious and invasive weeds;
- California spotted owl;
- Northern goshawk;
- Yellow warbler; and
- Sierra Nevada yellow-legged frog;

The environmental analysis presents the surveys results where appropriate.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Fish				
Gila bicolor pectinifer Lahontan Lake tui chub	DSS	Occurs in Pyramid Lake and in Lake Tahoe to a lesser extent. Also occurs in the Stampede Reservoir on the Lower Truckee River.	A	No suitable habitat within the BSA. Species confined to Lake Tahoe and Pyramid Lake, and a few reservoirs.
Hypomesus transpacificus Delta smelt	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchus clarkiihen shawi Lahontan cutthroat trout	FT	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temps & conditions. Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	HP	Limited suitable spawning habitat in the BSA. Introduced predatory salmonids occur within Dollar Creek in the BSA. Species likely extirpated from Dollar Creek because the culvert conveying the channel under SR 28 creates a blockage to fish (California State Parks 2005).
Oncorhynchus mykissirideus Steelhead – Central Valley DPS	FT	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchu stshawytscha Chinook salmon – Central Valley spring-run ESU	FT/ST	Populations in the Sacramento River and its tributaries.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchus tshawytscha Chinook salmon – Sacramento River winter-run ESU	FE/SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Amphibians				
Ambystoma californiense California tiger salamander, central population	FT/ST/ CSC	Needs vernal pools or other seasonal water sources for breeding. Uses underground refuges, especially ground squirrel burrows.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Lithobate spipiens Northern leopard frog (native populations only)	CSC	Highly aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics. Native range is east of the Sierra Nevada-Cascade crest.	A	No suitable habitat within the BSA. Potential habitat adjacent to BSA at Dollar Creek Reservoir. However, species likely introduced to the Tahoe Basin. Species does not appear to have established a population in the Tahoe Basin, and have not been recorded in the basin since the 1940s.
Rana draytonii California red-legged frog	FT/CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Rana sierrae Sierra Nevada yellow-legged frog	FC/SC/ CSC	Streams, lakes, and ponds in montane riparian habitats. Always encountered within a few feet of water. Tadpoles may require 2 - 4 years to complete their aquatic development.	HP	Limited suitable habitat in the Project vicinity. Introduced predatory salmonids occur within the stream channels in the BSA.
Reptiles				
Thamnophis gigas Giant garter snake	FT/ST	The most aquatic of the garter snakes in California. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Birds				
Accipiter gentilis Northern goshawk	CSC	Within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Dense stands of mature red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest tree sites.	HP	Suitable nesting and foraging habitat present within the BSA. Species not identified during protocol surveys.
Dendroica petechia Yellow warbler	CSC	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	HP	Suitable habitat within the BSA at the along Dollar Creek. Species not identified during birds surveys.
Empidonax traillii Sierra Nevada willow flycatcher	SE	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	A	Suitable habitat not present in the BSA.
Pandion haliaetus Osprey	CSC/TRPA	Inhabits areas associated with rivers, lakes and coastlines. Builds nest in large trees adjacent to waterbodies.	HP	Suitable nesting habitat located within BSA.
Strix occidentalis occidentalis California spotted owl	CSC	Nesting habitat is characterized by dense canopy closure (>70%) with medium to large trees and multi-storied structure stands.	HP	Suitable nesting and foraging habitat present within the BSA.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Mammals				
Aplodontia rufa Mountain beaver	CSC	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	HP	Suitable habitat present below Dollar Creek Reservoir along Dollar Creek.
Gulo gulo California wolverine	ST	Typically found in very remote areas of the northern North America and high elevation areas of the Sierra Nevada and Rocky Mountains.	A	The presence of a populated area in and near the BSA precludes the use of the area by wolverine.
Lepus americanus tahoensis *Sierra* Nevada snowshoe hare	CSC	Boreal riparian areas in the Sierra Nevada. Thickets of deciduous trees in riparian areas and thickets of young conifers.	A	Limited suitable habitat in the BSA.
Lepus townsendii White-tailed jackrabbit	CSC	Sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland east of the Sierra Crest.	A	Limited suitable habitat in the BSA.
Martes americana sierrae Sierra marten	CSC	Preferred habitat is characterized by dense, multi-storied coniferous forest that includes a high percentage of snags and downed logs in proximity to riparian corridors.	HP	Suitable habitat present within the BSA.
Martes pennanti Pacific fisher	FC	Extensive forested areas with continuous canopy in higher elevations. Avoids entering open areas that have no overstory or shrub cover.	A	No suitable habitat within the BSA.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Vulpes vulpes necator Sierra Nevada red fox	ST	Found in a variety of alpine habitats from wet meadows to forested areas. Use dense vegetation & rocky areas for cover & den sites. Prefer forests interspersed with meadows or alpine fell-fields.	A	Limited suitable habitat within the BSA
Invertebrates				
Branchinecta conservatio Conservancy fairy shrimp	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, lasting until June.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Branchinecta lynchi vernal pool fairy shrimp	FT	Endemic to the grasslands of the Central Valley, central Coast Mountains, and south Coast Mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassland swale, earth slump, or basalt-flow depression pools.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Capnia lacustra *Lake Tahoe benthic stonefly*	DSS	Endemic to Lake Tahoe. Found at depths of 95-400 feet. Associated with deepwater plant communities of algae, mosses and liverworts.	A	No suitable habitat within the BSA. BSA does not include Lake Tahoe.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California, in association with elderberry (*Sambucus*spp.).	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Helisoma newberryi Great Basin ram's-horn	DSS	Occurs in larger lakes and rivers, including larger spring sources and spring fed creeks, where it burrows into soft mud.	A	No suitable habitat within the BSA.
Lepidurus packardi Vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Plants and Fungi				
Arabis rigidissima var. *demota* Galena Creek rock-cress	TRPA, 1B.2	Fir- pine-quaking aspen associations, meadow edges, usually on north-facing slopes and rocky outcrops. Typically found on well-drained, stony soil underlain by basic volcanic rock. Elevation 2,255 to 2,560 m (7,400 to 8,400 ft). Blooms August..	A	No suitable habitat within the BSA. BSA outside the known elevational range of the species.
Botrychium ascendens upswept moonwort	2.3	Moist habitats near springs and streams. Elevation 1,500 to 2,060 m (4,920 to 6,760 ft). Fertile in August.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium crenulatum scalloped moonwort	2.2	Marshes, meadows, seeps, bogs and fens, streambanks and other moist habitats. Elevation 1,500 to 2,670 m (4,920 to 8,760 ft). Fertile July-August.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium lunaria common moonwort	2.3	Meadows, seeps, and other moist habitats. Elevation 2,740 to 3,400 m (8,990 to 11,150 ft). Fertile period not specified in the literature.	A	No suitable habitat within the BSA. BSA is below the documented elevation range of the species.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Botrychium minganense mingan moonwort	2.2	Streambanks, meadows and other moist habitats. Elevation 1,500 to 2,275 m (4,920 to 7,460 ft). Fertile period not specified in the literature.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium montanum western goblin	2.1	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest/mesic. Streambanks in old-growth forest. Elevation 1,500 to 1,830 m (4,920 to 6,000 ft). Fertile period not specified in the literature.	A	No suitable habitat within the BSA. BSA is above the documented elevation range of the species.
Carex davyi Davy's sedge	1.B	Known to occur in moist meadows and rocky slopes in subalpine coniferous forest and upper montane coniferous forest. Blooms May-August.	HP	Suitable habitat along banks of Dollar Creek.
Carex lasiocarpa woolly-fruited sedge	2.3	Generally in standing water in sphagnum bogs, freshwater marsh, lakes, and ponds. Elevation 1,800 to 2,100 m (5,900 to 6,900 ft). Blooms June-July.	HP	Suitable habitat along banks of Dollar Creek.
Carex mariposana Mariposa sedge	TRPA	Red fir and subalpine coniferous forest, montane meadows; 1,200-3,200 m (3,937-10,500 ft). Blooms July-September.	HP	Suitable habitat along banks of Dollar Creek.
Carex praticola Northern meadow sedge	2.2	Moist to wet meadows from sea level to 10,400'. Blooms May-July.	HP	Suitable habitat along banks of Dollar Creek.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Epilobium oreganum Oregon fireweed	1B.2	Upper montane coniferous forest, lower montane coniferous forest, in or near streams, bogs, or fens; 500-2,240 m (1,640-7,350 ft). Blooms June – September.	HP	Suitable habitat along banks of Dollar Creek.
Erigeron eatonii var. nevadincola Nevada daisy	2.3	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland, and rocky substrates. Only information for nearby collection is 1915 collection by Brainerd and Baird. 1,400-2,900 m (4,600-9,514 ft). Blooms May–July.	A	No suitable habitat within the BSA.
Erigeron miser starved daisy	1B.3	Rocky, granitic outcrops in upper montane coniferous forest. Elevation 1,755 to 2,260 m (5,760 to 7,415 ft). Blooms June-October.	A	No suitable habitat within the BSA.
Eriogonum umbellatum var. *torreyanum* Donner Pass buckwheat	1B.2	Rocky, volcanic soils on steep slopes and ridgetops, usually in bare or sparsely vegetated areas. Elevation 1,840 to 2,620 m (6,040 to 8,600 ft). Blooms July-September.	A	No suitable habitat on steep slopes or ridgetops within the BSA.
Glyceria grandis American managrass	2.3	Wet meadows, ditches, streams, and ponds. Elevation 15 to 1,980 m (50 to 6,500 ft). Blooms June-August.	HP	Suitable habitat within and along banks of Dollar Creek.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Ivesia sericoleuca Plumas ivesia	1B.2	Vernally mesic areas, usually on volcanic substrates, within Great Basin scrub, lower montane coniferous forest, meadows, and vernal pools. Elevation 1,450 to 2,000 m (4,755 to 6,560 ft). Blooms May-October.	A	No suitable habitat within the BSA.
Juncus luciensis Santa Lucia rush	1B.2	Vernal pools, ephemeral drainages, wet meadows, and stream banks. Elevation 300 to 2,040 m (985 to 6,690 ft). Blooms April-July.	HP	Suitable habitat along banks of Dollar Creek.
Lewisia longipetala long-petaled lewisia	TRPA, 1B.3	Alpine boulder and rock field, Subalpine coniferous forest (mesic, rocky)/granitic. Known from fewer than twenty occurrences. Possibly threatened by horticultural collecting; 2,500-2,925 m (8,200-9,600 ft). Blooms July-August.	A	No suitable habitat within the BSA.
Meesia uliginosa Broad-nerved hump moss	2.3	Bogs and fens, meadows and seeps, upper montane coniferous forest on mesic soil; 1,300-2,500 m. Fertile period not specified in the literature.	HP	Suitable habitat along banks of Dollar Creek.
Rhamnus alnifolia alder buckthorn	2.2	Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, montane riparian scrub. Elevation 1,370 to 2,130 m (4,495 to 6,990 ft). Blooms May-July.	HP	Suitable habitat along banks of Dollar Creek.

Table 14

Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Rorippa subumbellata Tahoe yellow-cress	FC/SE/ 1B.1	On decomposed granite sand on beaches and lakeside margins and in riparian communities. Known only from the shores of Lake Tahoe. Elevation 1,885 to 1,900 m (6,185 to 6,235 ft). Blooms May-September.	A	No suitable habitat within the BSA. Species is known only from the shoreline of Lake Tahoe.
Scutellaria galericulata marsh skullcap	2.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevations 0 to 2,100 m (0 to 6,890 ft). Blooms June-September.	HP	Suitable habitat along Dollar Creek and the edges of Dollar Reservoir in the BSA.
Sphaeralcea munroana Munro's desert mallow	2.2	Dry, open sites in Great Basin scrub. Elevation 2,000 m (6,560 ft). Blooms May-June.	A	Suitable habitat not present within the BSA.
Stuckenia filiformis Slender-leaved pondweed	2.2	Marshes and swamps, clear water of lakes and drainage channels (assorted shallow water); 15-2,310 m (50 to 7,575 ft). Blooms May-July.	HP	Suitable habitat within Dollar Reservoir, directly adjacent to the BSA.

Source: ESA/HBA 2012

Status Codes: Federal Threatened (FT); Federal Candidate (FC); State Endangered (SE); State Threatened (ST); California Species of Special Concern (CSC); TRPA Sensitive Species (TRPA); California Native Plant Society (CNPS) 1B.1 – Rare, threatened, or endangered in California and elsewhere, seriously threatened in California; 1B.2 – Rare, threatened, or endangered in California and elsewhere, fairly threatened in California; 2.1 – Rare, threatened, or endangered in California, but more common elsewhere, and seriously threatened in California; 2.2 – Rare, threatened, or endangered in California, but more common elsewhere, and fairly threatened in California; 2.3 – Rare, threatened, or endangered in California, but more common elsewhere, and not very threatened in California.

Habitat Present / Absent Code: Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. The species may be present. Present [P] - the species is present.

Stream Environment Zones. The TRPA defines a SEZ as a biological community that derives its characteristics from the presence of surface water or a seasonal high groundwater table. Stream environment zones exhibit the ability to rapidly incorporate nutrients into the usually dense vegetation and moist to saturated soils. A SEZ is delineated by the presence of drainage ways and floodplains, including adjacent marshes, meadows, and riparian areas.

SEZs are important because they make up a natural system of runoff conveyance, provide wildlife habitat, and can filter and treat (through soils and vegetative complexes) spring snowmelt, stormwater runoff, and other forms of surface runoff before discharge to Lake Tahoe. SEZs have been verified using the criteria described below and are shown on plan sheets in Appendix C.

CardnoEntrix staff delineated two (2) SEZ areas in the summer of 2011. Appendix J details methods and results for delineation of SEZ areas: one follows the Dollar Creek drainage and the other is an ephemeral seep located at the northern end of the project area. Figure 18 illustrates SEZ and wetland locations within the project area.

Wetlands and Waters of the U.S The USACE regulates activities in wetlands and waters of the U.S. in accordance with Section 404 of the Clean Water Act. To determine the potential for impacts to this resource, HBA performed preliminary wetland delineation in the summer of 2011. Appendix H contains results and incorporates conclusions from the draft report. The delineation identified four (4) wetland types within the project area, including: other waters, emergent floodplain, montane riparian wetland, and groundwater seep wetland. Appendix H provides descriptions, figures, and maps of potential wetlands and waters of the U.S. identified within the project area.

3.2.4.2 Environmental Analysis and Mitigation Measures

29. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (CEQA IVa)

Standard of Significance: The loss of greater than zero endangered, threatened or rare fish or wildlife individuals or disturbance of greater than zero acres of occupied or designed critical habitat constitute a significant impact as defined by CEQA Article 5, Section 15065, CESA Sections 2062 and 2067, CDFG Code Sections 1900-1913, and TRPA Thresholds.

The following 20 species, as listed in Table 14, have suitable habitat present in the project area: Lahontan cutthroat trout, Sierra Nevada yellow-legged frog, Northern goshawk, Yellow warbler, Osprey, California spotted owl, mountain beaver, Sierra marten, upswept moonwort, scalloped moonwort, mingan moonwort, wooly-fruited sedge, Mariposa sedge, northern meadow sedge, Oregon fireweed, American managrass, broad-nerved hump moss, alder buckthorn, marsh skullcap, and slender-leaved pondweed.

Appendix H contains the detailed analysis for each of the species listed above. Analysis determines that mitigation measure BIO-1 is required to offset potential impacts to seven (7) species, including: Lahontan cutthroat trout, Sierra Nevada yellow-legged frog, northern goshawk, yellow warbler, osprey, California spotted owl and American marten to levels of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation*

Required Mitigation:

BIO-1. Pre-Construction Surveys for Wildlife Species

A. Northern goshawk. TRPA revised Code Section 62.4 requires the determination of 0.5-mile radius disturbance zones, as based on the presence of nest sites. To determine the presence of nest sites within and in the vicinity of the project area, pre-construction surveys for northern goshawk shall be conducted in the spring prior to commencement of construction activities in accordance with applicable protocol (USFS August 2000).

A qualified biologist, as determined by TRPA or CDFG, shall follow applicable protocol to conduct pre-construction surveys within suitable nesting habitat for northern goshawk within 0.5 miles of the project area. If nests are encountered, the biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. TRPA biologists shall be consulted to determine if and when construction activities can be initiated. The nest(s) shall be monitored by the qualified biologist during active construction. If the biologist determines that construction activities significantly affect the nest and roosting individuals, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from TRPA or CDFG.

B. Yellow warbler. As required by the MBTA, pre-construction surveys for tree-nesting raptors and migratory songbirds shall be conducted within 30 days prior to construction activities that occur between March 15 and August 31 nesting period.

A qualified biologist, as determined by CDFG, shall conduct pre-construction surveys within suitable nesting habitat for tree nesting raptors and migratory songbirds within 250 feet of the project area. If nests are encountered, the qualified biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. The nest(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist, construction activities significantly affect the nest, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from CDFG.

C. Osprey. TRPA revised Code Section 62.4 requires the determination of 0.25-mile radius disturbance zones, as based on the presence of nest sites. To determine the presence of nest sites within and in the vicinity of the project area, pre-construction surveys for osprey shall be conducted no more than two weeks prior to commencement of construction activities in accordance with applicable protocol.

A qualified biologist, as determined by TRPA, shall conduct pre-construction surveys within suitable nesting habitat for osprey within 0.25 miles of the project area. If nests are encountered, TRPA shall be notified and appropriate actions taken to avoid and minimize significant effects to a nest and roosting individuals, which may include creation of a buffer zone to protect the active nest from construction activities.

The biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. TRPA biologists shall be consulted to determine if and when construction activities can be initiated. The nest(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist,, construction

activities significantly affect the nest and roosting individuals, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from TRPA.

D. California spotted owl. As required by CDFG, pre-construction surveys for California spotted owl shall be conducted in the spring (i.e., March, April and May) prior to commencement of construction activities.

A qualified biologist, as determined by CDFG, shall follow applicable protocol (USFS February 1993) and conduct pre-construction surveys within suitable nesting habitat for California spotted owl within 0.5 miles of the project area. Should California spotted owls be discovered nesting within 0.5 miles of the project area, CDFG shall be notified and appropriate actions taken to avoid and minimize significant effects to a nest and roosting individuals, which may include creation of a buffer zone to protect the nest from construction activities.

The biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. CDFG shall be consulted to determine if and when construction activities can be initiated. The nest(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist, construction activities significantly affect the nest and roosting individuals, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the Project receives approval to continue from CDFG.

E. American marten. TRPA revised Code Section 62.3 requires protection of American marten den sites.

A qualified biologist, as determined by TRPA, shall follow applicable protocol (PSW GTR157, USFS 1995) and conduct a pre-construction survey for American marten den sites within 100 feet from the shared-use trail corridor.

Should a den be discovered, TRPA and CDFG shall be notified and appropriate actions taken to avoid impacts to the den site and individuals, which may include creation of a buffer zone to protect the den from construction activities. The den(s) shall be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist, construction activities significantly affect the den, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities in the den vicinity based on CDFG direction.

30. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (CEQA IVb)

Standard of Significance*:* Direct or indirect impact greater than zero acres for State or Federal sensitive natural communities, direct or indirect impact greater than zero acres to SEZ including riparian habitat constitute a significant impact.

Sensitive Natural Communities. The Project impacts no listed sensitive natural communities because the project area contains no such communities. Database searches covering the project area include the CDFG's CNDDB and USFWS (species list dated September 2011) for the Kings Beach, Tahoe City,

Homewood, Meeks Bay, Truckee and Martis Peak 7.5 min quad maps. The USFWS identifies no critical habitat within the project area.

TRPA designates uncommon plant communities in TRPA revised Code Subsection 61.3.6.C, which are as follows: the deepwater plants of Lake Tahoe, Grass Lake (sphagnum fen), Osgood Swamp, Hell Hole (sphagnum fen), Pope Marsh, Taylor Creek Marsh, Upper Truckee Marsh, and the Freel Peak cushion plant community. These communities lie outside of and distant from the project area.

Riparian Habitat. TRPA SEZ designations encompass riparian habitats within the Lake Tahoe Basin. The following discussion of SEZ evaluates Project effects on riparian habitat. In addition, the project area encompasses riparian wetland as defined by Section 404 of the Clean Water Act. Question 31 analysis presents Project effects on this and other wetland types related to CWA 404 permit requirements and potential CWA 401 water quality certification.

Stream Environment Zones. TRPA maintains the Regional Plan elements that establish SEZ as a sensitive natural community protected by standards and regulations. Lahontan also maintains standards in the Lahontan Basin Plan related to activities in SEZ. Construction of the Project results in direct and indirect impacts to SEZs. Direct impacts to SEZs include trimming of riparian vegetation. Trimming of vegetation in SEZs directly impacts the quality and functionality of the riparian system and threatens temporary degradation to surface water quality. Riparian vegetation provides modifications to SEZs by regulating microclimates and water temperature of adjacent water bodies. Removal of vegetation can result in changes in the microclimate by reducing the shading abilities of plants. Moisture retention ability of soils decreases after vegetation removal and often results in xeric conditions, thereby creating inhospitable environment for adjacent riparian vegetation. Removal of riparian vegetation increases sun exposure to shallow surface water areas to increase water temperatures, which can decrease habitat suitability.

Installation of the bridge span over Dollar Creek requires the trimming of riparian vegetation along the banks and adjacent slopes. Indirect impacts noted above that can result in loss of moisture in the impact area through increased solar radiation thereby desiccating soils will likely be offset through the shading provided by the new bridge span. The majority of the riparian vegetation along the banks of Dollar Creek is located within 20 feet of the creek bank. The 100-foot bridge span will average approximately 3 feet off the surface of the ground in these locations. This height, which allows for sunlight and sufficient moisture, is sufficient for the continued support of riparian vegetation. As the trimming of vegetation results in temporary impacts and the bridge will not prevent the future growth of riparian vegetation along the banks of Dollar Creek and the impact is less than significant.

TRPA SEZ Encroachment Findings. Question 61 addresses new land coverage and disturbance in LCD 1b.

Lahontan Basin Plan Findings. Lahontan implements provisions of the Basin Plan, including waste discharge prohibitions applicable to SEZs. Exceptions to waste discharge prohibitions for permanent disturbance in SEZ exist for public outdoor recreation and public health and safety facilities if (Basin Plan 5.8):

(a) the project by its nature must be sited in a SEZ;

By their very nature, roads, trails, and utilities traverse large areas of the landscape, following an alignment chosen to connect different locations (Siller Ranch Resolution No. R6T-2006-0021, page 6). The bowl-like nature of the Tahoe Region, including the mountainous north shore, creates drainages with attendant soil types that travel from the surrounding mountains to Lake Tahoe; creating a non-motorized

transportation network within this context cannot avoid surface waters and associated SEZ. Therefore, such features by their very nature interact with SEZs in areas where crossings are necessary.

or (a) for public health and safety;

As described for Question 61, related to TRPA encroachment findings, the Project is necessary for public health and safety by: 1) providing an AASHTO Class I and ADA certified shared-use trail as an alternative to existing roadways and Class II bike lanes; and 2) providing an essential link in the non-auto public transportation network capable of providing safe access for the broadest spectrum and diversity of user groups. TRPA recognized these project features when incorporating the Project in elements of the Regional Plan, specifically: as EIP project 761; on the TRPA Air Quality Transportation Program list; and in the Lake Tahoe RTP (TMPO 2008), Lake Tahoe Regional BPMP (TMPO 2010) and TRPA EIP, Planning Horizon 2008-2018 (TRPA 2009).

(b) there is no feasible alternative which would reduce the extent of SEZ encroachment;

The evaluation for reasonable alternatives provided for Question 61 concludes no location alternatives reduce SEZ encroachment; although use of a bridge span across Dollar Creek minimizes the effects of this encroachment.

(c) impacts are fully mitigated;

The evaluation for offsetting mitigation for SEZ disturbance presented for Question 61 concludes permanent and temporary measures incorporated into the Project avoid and minimize SEZ impacts. The on-site restoration proposals maintain similar function as the areas proposed for disturbance. On-site restoration lies in close proximity to areas of new disturbance and demonstrates similar characteristics.

(d) SEZs are restored in an amount 1.5 times the area of SEZ disturbed or developed for the project

The evaluation for on-site restoration presented for Question 61 demonstrates compliance with the requirements of 1.5:1 restoration.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

31. Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (CEQA IVc)

Standard of Significance: Greater than zero acres and/or zero linear feet of disturbance or discharge to wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrologic interruption or other means constitutes a significant impact as defined by the USACE jurisdictional waters regulations, 404 CFR 230 Section 404(b)(1), CDFG Section 1600 et seq, and USEPA and State of California no net loss policies.

USACE Section 404 Clean Water Act Requirements. The USACE reviews projects that may have impacts on the waters of the U.S. under the provisions of Section 404 of the CWA. Permanent discharges that exceed 0.1 acre require review under the provisions of the applicable Nationwide Permit (#14 for Linear Transportation Project as a trail, or #42 for a Recreation Project as a bike trail). Discharges over 0.5 acres require consideration under the provisions of an Individual Permit. In all cases, activities that

result in discharge over 0.1 acres must follow the required mitigation sequence of avoid, minimize, and compensate.

HBA staff performed preliminary wetland delineations in the summer of 2011. The delineation identified two (2) wetlands areas within the project area. Dollar Creek drainage was delineated from the area below the dam at Dollar Reservoir to an area below the proposed location for the bridge span by approximately 100 feet. The delineation fieldwork was completed and subsequently a map was created showing the locations of the wetland areas. Subsequent to the development of the map based on the fieldwork, the location of the proposed bridge span was moved downstream. The new location for the bridge span is below the area addressed by 2011 wetland delineation. Therefore, preliminary delineation does not provide for adequate analysis of area immediately below the bridge span.

The wetland area delineated immediately upstream to the proposed bridge crossing location is approximately 30 feet wide. The wetland area below the bridge is likely of the same width as upstream. The 100-foot bridge span avoids impacts to the wetland area below the bridge. Dollar Creek continues down through the montane riparian habitat and stayed confined within the channel. Expansion of the wetland area beyond the current width of 30-40 feet in the area of the proposed crossing is unlikely, but because this area has not been formally delineated, a determined cannot occur at this time. Therefore, this impact is considered potentially significant, requiring mitigation measure BIO-2 to reduce potential impacts to a level of less than significant.

Lahontan 401 Water Quality Certification Requirements. Prior to obtaining a 404 permit issued by USACE (if deemed necessary), the Project must receive a Section 401 Water Quality Certification issued by Lahontan. Receipt of this certification demonstrates that the Project proposal meets applicable Statewide water quality standards. Other sections of this IS/IEC identify compliance with elements of the Basin Plan and Board orders needed for Section 401 Water Quality Certification consideration, should coverage be necessary, including land capability and coverage (Question 61) and water quality standards and beneficial uses (Question 82).

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

BIO-2. Dollar Creek Wetland Delineation and Avoidance of Impacts

The area included in the wetland delineation shall be expanded downstream to the area surrounding the proposed location of the Dollar Creek bridge span, as the current delineation did not include the area below or immediately downstream of the proposed bridge span location. The existing delineated area shall be expanded to from its current extent downstream and to the west to a sufficient location to include all potential impacts to the wetland habitat and Dollar Creek. Upon completion of the preliminary delineation and subsequent acceptance of the wetland area by the US Army Corps of Engineers, the bridge span/design or location shall be modified, if necessary to avoid impacts to the delineated wetland and SEZ areas.

32. Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (CEQA IVd)

Standard of Significance: A significant impact results from the blockage, disruption or impedance of use of greater than zero wildlife or fish corridors or native wildlife nursery sites, as defined by TRPA revised Code Chapters 62 and 63.

Fish. Construction of the Project results in no blockage of fish migration corridors. The shared-use trail crosses Dollar Creek via a bridge span that places no structures within the stream channel. The bridge span will not interfere with the flow of waters or block any fish movement.

Mammals. Mule deer resident or passing through the project area may avoid the project area because of noise generated during construction activities, but the Project will not block movements long-term. Movement is preserved through the Project proposal, which maintains large open areas within the project area.

Use of the shared-use trail by pedestrians and bikers creates no detrimental effect on the migration of mule deer because the location of the shared-use trail is within the summer range and not within a migration corridor.

No other identified resident wildlife corridors are mapped within the project area. American marten are known to occupy suitable habitat areas adjacent to the proposed tail alignment. The Project proposal avoids impediments to the movement of marten or other mammals such as coyote, raccoon or bobcat that may be moving though the area. Wildlife often utilize riparian as movement corridors. The bridge span avoids impeding the movement of wildlife by allowing for passage of small mammals under the structure and does not prevent the movement of larger wildlife, which may walk around the bridge structure.

Native Wildlife Nurseries. Tree removal and construction activities associated with construction may result in direct removal of active nests for migratory birds and/or raptors and may result in disturbance or abandonment of nesting, roosting, or breeding sites in adjacent habitat. In addition wildlife nursery sites may be present within the project area and may be disturbed due to construction activities. While no surveys have been performed for wildlife nurseries the potential exists for nursery sites to be present before trail construction commences. Implementation of mitigation measure BIO-3 requires identification of native wildlife nurseries and provides for protection to the identified sites. The level of impact to native wildlife nurseries is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation:

BIO-3. Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program

As required by the MBTA (50 CFR Part 10), the Program shall include surveys, consultation, and protective actions to identify any active raptor or migratory bird nest sites and wildlife nursery sites within shared-use trail construction corridor. A qualified biologist, as determined by TRPA, CDFG or USFWS, shall perform pre-construction surveys during the nesting/breeding season (i.e., March through August) prior to commencement of active construction (e.g., excavation, grading and tree removal) to determine whether raptors or migratory birds are occupying trees or whether any wildlife den/nursery sties are within the shared-use trail construction corridor.

The biological monitor shall have the authority to stop construction near occupied trees or nursery sites if actions have a negative impact on nesting raptors or migratory birds or their young. If construction must be stopped, the shall consult with TRPA and CDFG or USFWS, as applicable, within 24 hours to determine appropriate actions to avoid and reduce significant effects to identified nursery sites, raptors or migratory bird nests.

33. Would the Project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? (CEQA IVe)

Standard of Significance: If the Project conflicts with goals and policies outlined in the conservation element of the TRPA Regional Plan for vegetation, wildlife and/or fisheries a significant impact results to biological resources.

Table 15 presents the consistency analysis of the Project with the TRPA Regional Plan Conservation Element Goals and Policies for biological resources. Consistency with the TRPA Regional Plan goals and policies reduces the potential impact to biological resources to a level of less than significant.

Table 15

TRPA Regional Plan Consistency Analysis – Biological Resources

Vegetation	
Goal 1 – Provide for a wide mix and increased diversity of plant communities in the Tahoe Basin Policy 2 Opportunities to improve the age structure of the pine and fir plant communities shall be encouraged when consistent with other environmental considerations. Policy 3 Forest pattern shall be manipulated whenever appropriate as guided by the size and distribution of forest openings. Policy 4 Edge zones between adjacent plant communities will be maximized and treated for their special value relative to plant diversity and wildlife habitat. Policy 5 Permanent or unnecessary alteration of natural vegetation associated with development activities shall not exceed the approved boundaries (or footprints) of the building, driveway, or parking structures, or that which is necessary to reduce the risk of fire or erosion. Policy 6 The management of vegetation in urban areas shall be in accordance with the polices of this plan and shall include provisions that allow for the perpetuation of the natural appearing landscape Policy 7 Disturbance or removal of forest litter should be avoided to promote the natural catchment of nutrients. Policy 8 Revegetation of disturbed sites shall require the use of species approved by the agency. TRPA shall prepare specific policies designed to avoid the unnecessary use of landscaping which requires long-term irrigation and fertilizer use. Policy 9 Consider the cumulative impact of vegetation removal with respect to plant diversity and abundance, wildlife habitat and movement, soil productivity and stability, and water quality and quantity.	Consistent – The Project does not modify the diversity of plant communities in the Lake Tahoe Basin. The revegetationand restoration strategies (Appendix E) utilizes TRPA-approved species suitable to maintain natural plant communities, including SEZ and upland types to address wildlife, fire prevention, and water quality needs.
Goal 2 – Provide for the maintenance and restoration of such unique eco-systems as wetlands, meadows, and other riparian vegetation. Policy 1 Riparian plant communities shall be managed for the beneficial uses of passive recreation, groundwater recharge, and nutrient catchment, and as wildlife habitats. Policy 2 Riparian plant communities shall be restored or expanded whenever and wherever possible.	Consistent – The Project avoids impacts SEZs to the extent possible to maintain beneficial uses and to protect overall diversity and habitat quality.
Goal 3 – Conserve threatened, endangered, and sensitive plant species and uncommon plant communities of the Lake Tahoe Basin. Policy 1 Uncommon plant communities shall be identified and protected for their	Consistent – Sensitive plant species surveys completed within the project area identify

natural values. Policy 2 The population sites and critical habitat of all sensitive plant species in the Lake Tahoe Basin shall be identified and preserved.	no occurrences of TES plant species. The Project impacts no uncommon plant communities.
Goal 4 – Provide for and increase the amount of late seral/old growth stands within the Lake Tahoe Basin Policy 4 Retain large trees as a principal component of late seral/old growth ecosystems. Policy 5 Retain trees of medium and small size sufficient to provide for large tree recruitment over time and to provide structural diversity.	Not Applicable – The project area contains no late seral/old growth forest, as based on habitat assessments completed for the Project.
Goal 5 – The appropriate stocking level and distribution of snags and coarse woody debris shall be retained in the regions forests to provide habitat for organisms that depend on such features and to perpetuate natural ecological processes. Policy 1 Allow for a sufficient number and an appropriate distribution of snags throughout the region's forests to provide and maintain habitat for species dependent on such features. Policy 2 Allow for an appropriate amount, level, and distribution of coarse woody debris throughout the region's forests to maintain biological integrity, to stabilize soil, and to afford a reasonable level of fire safety.	Not Applicable – The Project creates no change to the distribution of snags and coarse woody debris.
Wildlife	
Goal 1 – Maintain suitable habitats for all indigenous species of wildlife without preference to game or non-game species through maintenance of habitat diversity. Policy 1 All proposed actions shall consider impacts to wildlife. Policy 2 Riparian vegetation shall be protected and managed for wildlife	Consistent – The Project maintains suitable wildlife habitats, protecting riparian vegetation to the greatest extent feasible.
Goal 2 – Preserve, enhance and where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the basin. Policy 1 Endangered, threatened, rare, and special interest species shall be protected and buffered against conflicting land uses.	Consistent – The Project results in no adverse impacts to threatened, endangered, rare or sensitive species as a result of construction or operations.
Fisheries	
Goal 1 – Improve aquatic habitat essential for the growth, reproduction, and perpetuation of existing and threatened fish resources in the Lake Tahoe Basin. Policy 1 Development proposals affecting streams, lakes and adjacent lands shall evaluate impacts to the fishery. Policy 2 Unnatural blockages and other impediments to fish movement will be prohibited and removed wherever appropriate.	Consistent – The Project results in no adverse impacts to aquatic habitat and creates no blockages or other impediments to fish movement.
Stream Environment Zones	
Goal 1 – Provide for the long-term preservation and restoration of stream environment zones. Policy 1 Restore all disturbed SEZ lands in undeveloped, unsubdivided lands, and restore 25% of the SEZ lands that have been disturbed, developed, or subdivided. Policy 2 SEZ lands shall be protected and managed for their natural values. Policy 5 No new land coverage or other permanent land disturbance shall be permitted in SEZs except for those uses as noted (including outdoor recreation facilities if six conditions are met).	Consistent – The Project avoids impacts to SEZ, protecting diversity and habitat quality.

Source: HBA 2012

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

34. Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (CEQA IVf)

Standard of Significance: If the Project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved habitat conservation plan, a significant impact results.

The Project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because no such plans exist for the project area.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

35. Would the Project result in removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system? (TRPA 4a)

No. Standard of Significance: Removal of greater than zero acres of native vegetation in excess of the area utilized for the actual development permitted by the TRPA land capability system results in a significant impact as defined by TRPA revised Code Chapters 30 and 33.

The Project results in land coverage associated with the physical shared-use trail surfaces and land disturbance associated with adjacent clear zones that infiltrate runoff and cut and fill slopes necessary to control trail grades for compliance with AASHTO and ADA design standards. Question 61 analyzes land coverage by Land Capability District (LCD).

Project construction removes native vegetation during soil disturbance activities; however, the Project complies with TRPA regulations for restoration and revegetation of disturbance areas. The Project proposal minimizes the extent of disturbance through trail location by utilizing existing slopes and grades. Appendix E details the RRPs for disturbance areas, including clear zones, cut and fill slopes and disturbance areas. Plan components include reestablishment of native vegetation. The disturbance necessary for Project implementation is in accordance with the requirements outlined for each LCD and as noted in Question 61 for restoration of temporary disturbance. The Project proposal limits vegetation removal to the area utilized only for the shared-use trail construction and operation, therefore this impact is considered less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

36. Would the Project result in removal of riparian vegetation other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table? (TRPA 4b)

No, with mitigation. Standard of Significance: The direct removal or indirect lowering of the groundwater table during Project construction or long-term operations that causes loss of riparian

vegetation or other vegetation associated with critical wildlife habitat constitutes a significant impact as defined by TRPA revised Code Chapter 61.

Direct vegetation removal will include riparian vegetation trimming at Dollar Creek as described in the analysis for Question 30. Evaluation presented above for Question 32 identifies no critical wildlife habitat within the project area and vegetation removal creates less than significant effects to this habitat type.

No direct removal of groundwater will occur; however, typical trail construction could intercept groundwater, affecting the water table, through excavation needed for the trail itself or associated retaining walls. Evaluation of the Project proposal identifies facility features and design that avoid trail excavation in areas associated with high groundwater (i.e. SEZ and or wetland) through use of the bridge span and avoidance of SEZ. As final plans develop with additional engineering detail, a soils/hydraulic reports required for excavations in excess of five feet will confirm if groundwater is present. If necessary, additional design revisions may be necessary to avoid interception of groundwater. This evaluation concludes Project operation avoid intercepting groundwater. However, should groundwater be encountered during construction, dewatering will be required. See Question 83 for further analysis of groundwater impacts and required mitigation measure HYDRO-4.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

37. Would the Project result in introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species? (TRPA 4c)

No, with mitigation. Standard of Significance: The introduction of noxious species or the introduction of new vegetation that requires excessive fertilizer or water constitutes a significant impact as defined by TRPA revised Code Chapter 61.

Although the Project constructs impervious surfaces that do not allow for the replenishment of existing plant species, this affects a very small area. Existing and new land coverage, totaling 220,062 square feet, affects l.9 percent of the 11,267,603 square foot project area. Approximately 16,875 square feet of the land coverage required for the shared-use trail lies over existing coverage, which currently restricts the normal replenishment of existing species.

The Project includes a restoration and revegetation plan (RRP) that relies on native and adapted species to avoid the need for excessive water and fertilizer use. Appendix E describes this strategy for disturbed areas, outlining the approaches to revegetation and restoration according to type and location. Treatment types are specific for each area including individual plantings in specific areas to control traffic and the application of revegetation seed mixes. The Project proposes no long-term irrigation. The revegetation specifications identify soil amendments for application where topsoil is not available. Organic matter and topsoil will be stockpiled during construction will be reused during revegetation activities. Slow release fertilizer and irrigation will be applied during the establishment phase.

Introduction of noxious weed species creates a barrier to the replenishment and growth of existing native species if noxious weeds out compete and displace native plant species. Invasive weeds such as tall white-top (*Lepidium latifolium*), Klamath weed (*Hypericum perforatum*) and thistle species (*Cirsium spp.*) often result in monocultures, resulting in loss of diversity and degradation of habitats. Seed mixes

proposed for the Project include native species and adaptive species and do not include noxious weed or invasive species.

Application of preventative measures is required to control noxious weed and invasive species during construction and expedited identification and removal of such species during revegetation and long-term maintenance activities allows for normal replenishment of existing native species. Existing noxious weed species that were observed during sensitive species surveys include: creeping bentgrass (*Agrostis stolonifera*), bull thistle (*Cirsium vulgare*), Klamath weed (*Hypericum perforatum*), and Kentucky bluegrass (*Poa pratensis*). The potential exists for these species to proliferate and spread during construction activities, requiring implementation of mitigation measure BIO-4 to minimize potential impacts.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

BIO-4. Noxious Weed Eradication and Control Program

As required by TRPA revised Code Section 61.3, the shared-use trail Operator shall develop and implement a Noxious Weed Eradication and Control Program to protect suitable sensitive plant habitat and to protect future populations of sensitive plants from invasive terrestrial and aquatic noxious weeds. The program shall identify a qualified professional, as approved by TRPA and/or Placer County, to act a coordinator for the Project. The program shall include abatement and prevention measures to decrease and eradicate known populations of noxious weeds, as follows:

- Known populations of terrestrial and aquatic noxious weeds shall be identified and a plan shall be implemented to control and eradicate weed populations and restore native plant cover.

- Equipment used in the project area must be sanitized and free of non-native invasive species before moving into the project area to ensure that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of non-native invasive species. Vehicles, especially large, off-road and/or earthmoving vehicles shall be cleaned when they come into the Lake Tahoe Basin or come from a Basin area known to contain non-native invasive species. Equipment shall be considered clean when visual inspection finds no soil, seeds, plant material, or other such debris.

- Gravel, fill, or other materials shall be “weed-free.” Use onsite sand, gravel, rock, or organic matter when possible. Otherwise, obtain “weed-free” materials from gravel pits and fill sources that have been surveyed and approved by the California Division of Food and Agriculture or Nevada Department of Agriculture or by the qualified professional.

- Use “weed-free” mulches, and seed sources. Salvage topsoil from project area for use in onsite revegetation, unless contaminated with non-native invasive species. Soil or materials from areas contaminated by cheat grass shall not be used.

- Upon completion of Project construction, the qualified professional shall be notified. The shared-use trail cooridor shall be monitored for the first three (3) years of Project operations to ensure additional non-native invasive species do not become established, that native species are established on re-seeded or restored habitats, and that known non-native invasive species do not spread.

38. Would the Project result in change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)? (TRPA 4d)

No. Standard of Significance: A change in diversity or distribution of species or number of species of plants resulting from Project construction or operations constitutes a significant impact as defined by TRPA revised Code Chapter 33 and 62 and 63.

Construction of the Project results in the removal of vegetation, as addressed in Questions 30, 35, and 36. This removal of this vegetation does not result in the reduction in diversity of species; however a temporary loss in individual numbers of plant species likely results. Through the implementation of the RRP (Appendix E), the Project maintains the diversity and distribution of species of plants and this impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

39. Would the Project result in reduction of the numbers of any unique, rare or endangered species of plants? (TRPA 4e)

No, with mitigation. Standard of Significance: The reduction of the number of any unique, rare or endangered species of plants as a result of Project construction and operations constitutes a significant impact as defined by TRPA revised Code Chapter 61.

The project area contains suitable habitat for the following sensitive plant species as listed in Question 29 above: upswept moonwort, scalloped moonwort, mingan moonwort, wooly-fruited sedge, Mariposa sedge, northern meadow sedge, Oregon fireweed, American managrass, broad-nerved hump moss, alder buckthorn, marsh skullcap, and slender-leaved pondweed.

The Natural Environment Study in Appendix H contains detailed analysis for each of the species listed above. Sensitive plant species may be located during future surveys of the project area and the potential exists for impacts to the yet discovered unique, rare, or endangered plant species. This impact is considered potentially significant. With implementation of mitigation measure BIO-5, this impact is reduced to less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

BIO-5. Avoid Sensitive Plants or Prepare Sensitive Plant Protection Program

If pre-construction surveys identify sensitive plant species, the County shall develop a Sensitive Plant Protection Program to mitigate impacts to California Native Plant Species and TRPA Special Status Plant Species. Program features shall include:

Avoidance. Impacts to rare plant populations identified from the rare plant surveys shall be avoided where feasible by reconfiguring Project design and fencing rare plant populations to prevent encroachment.

Identify, Select, and Restore or Purchase Mitigation Sites. If avoidance is not feasible, the County together with input from the TRPA shall identify opportunities for mitigation of sensitive plant impacts from Project construction and operation. Mitigation is not limited to but may include a single, or combination of the following items: restoration of degraded sensitive plant habitat owned by the Project Applicant, negotiation of conservation easements in order to retain

and protect existing populations, or habitat restoration in off-site, degraded rare plant populations to compensate for unavoidable impacts.

Prepare a Special Status Plant Species Mitigation & Monitoring Plan. If avoidance is not feasible, the County shall produce a mitigation and monitoring plan to follow the CNPS and CDFG guidelines to comply with Chapter 10 of CDFG Native Plant Protection Policy and TRPA revised Code Subsection 61.3.6.C.

40. Would the Project result in removal of streambank and/or backshore vegetation, including woody vegetation such as willows? (TRPA 4f)

Yes. Standard of Significance: TRPA revised Code Subsection 61.3.3 prohibits the removal of SEZ vegetation except as allowed by other Code provisions. Loss of riparian vegetation results in a significant impact.

Installation of the bridge span over Dollar Creek requires the trimming of riparian vegetation along the banks and adjacent slopes. The trimming of vegetation results in temporary impacts and the bridge will not prevent the future growth of riparian vegetation along the banks of Dollar Creek. See analysis for Question 30, which addresses CEQA checklist item IVb and concludes the level of impact as less than significant.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

41. Would the Project result in removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications? (TRPA 4g)

No, with mitigation. Standard of Significance: TRPA revised Code Subsection 61.1.4 prohibits the removal of trees larger than 30-inches dbh for west side forest types in lands that are in conservation or recreation plan areas except under specific Project conditions, tree removal that does not meet findings outlined in revised Code Subsection 61.1.4 results in a significant impact within TRPA Conservation or Recreation land use areas. If the TRPA Code changes in a future date to allow for the legal removal of trees larger than 30-inches in recreation or conservation plan areas, mitigation would not be required.

The Project removes trees from two PASs. PAS 012 North Tahoe High School is a recreational plan area and PAS 013 Watson Creek is a conservation plan area. As the entirety of the project area is within TRPA designated west side forest type, prohibition of removal of trees 30-inch dbh or greater applies in these areas.

Project development to date does not include a survey providing precise tree location in relation to Project features or a hazard or tree health survey completed by a qualified forester. During construction plan development, additional data will confirm the size, location, and condition of all trees, including 30-inch dbh trees in Recreation and Conservation plan areas and will determine removal estimates. All trees that are larger than 30-inches are prohibited for removal, thereby requiring the re-alignment of the proposed trail to retain the subject trees.

Trees 30-inch dbh or larger are present within the project area, which will be avoided as required by mitigation measure SR-1 below. Excavation, compaction and grading activities associated with construction of the Project potentially affect these trees. Installation of the proposed trail, slope layback and vehicle access during construction may impact tree roots, potentially degrading tree health. Removal of trees for Project construction results in no substantial changes to the existing habitat and no changes in habitat categorization.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 5 for description):

SR-1. Tree Protection and Avoidance Measures

42. Would the Project result in a change in the natural functioning of an old growth ecosystem? (TRPA 4h)

No. Standard of Significance: A change in the natural functioning of an old growth ecosystem constitutes a significant impact as determined by TRPA revised Code Chapter 61 and Goals and Policies.

Because the project area contains no ecosystems delineated or otherwise identified as old growth, the Project results in no impact or change to the natural functioning of old growth ecosystems.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

43. Would the Project result in change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)? (TRPA 5a)

No. Standard of Significance: A change in the diversity or distribution of species, or numbers of any species of animals resulting from Project construction or operations constitutes a significant impact to TRPA Thresholds, as cited in TRPA Resolution 82-11 Exhibit A, and TRPA goals and policies pertaining to wildlife fisheries.

See the analysis for Question 38, which addresses TRPA checklist item 4d and concludes the Project creates a less than significant change in the diversity or distribution of species.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

44. Would the Project result in reduction of the number of any unique, rare or endangered species of animals? (TRPA 5b)

No, with mitigation. Standard of Significance: See analysis for Question 29, which addresses CEQA checklist item IVa and concludes the level of impact after mitigation to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS is less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 29 for description):

BIO-1. Pre-Construction Surveys for Wildlife Species

45. Would the Project result in introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? (TRPA 5c)

No, with mitigation. Standard of Significance: The introduction of new species into the project area or the blockage or disruption of fish or wildlife corridors constitutes a significant impact by the Project to the migration or movement of animals.

See the analysis for Question 32, which addresses CEQA checklist item IVd and concludes the level of impact to migration or movement of animals is less than significant after mitigation.

No new species of animals are proposed for introduction into the project area as a result of the Project. No animals, insects or invertebrate species will be introduced.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 32 for description):

BIO-3. Active Raptor and Migratory Bird Nest Site Protection Program

46. Would the Project result in deterioration of existing fish or wildlife habitat quantity or quality? (TRPA 5d)

No, with mitigation. Standard of Significance: Deterioration of existing fish or wildlife habitat quantity or quality from construction and operations of the Project constitutes a significant impact to these habitats as defined in TRPA revised Code Chapters 62 and 63.

Wildlife Habitat. The project area contains mostly mixed conifer forest, with a small patch of montane chaparral and montane riparian wetland. Question 30 identifies the impacts to SEZ and Question 31 describes the impacts to wetlands. Impacts to other habitat types are described below.

The shared-use trail is located immediately adjacent to residential neighborhoods; thus, the habitat within these areas is of low suitability for many wildlife species due to high existing human presence and use. A portion of the habitat areas in the urban interface mostly located at the southern end have experienced fuels treatment in the recent past and therefore lack levels of structural complexity (i.e., multiple canopy layers, high degree of species diversity, high levels of down woody debris or standing snags) that are associated with high quality wildlife habitat. A variety of common species utilize the habitats described above such as Stellar's jay (*Cyanocitta stelleri*), mountain chickadee (*Poecile gambeli*), northern flicker (*Colaptes auratus*), Douglas squirrel (*Tamiasciurus douglasii*), coyote (*Canis latrans*), black bear (*Ursus americanus*), and western fence lizard (*Sceloporus occidentalis*). The design of the shared-use trail decreases impacts to the surrounding habitat where possible through minimization of tree removal by following portions of existing unpaved roadways, avoidance of trees larger than 30-inch dbh and minimization of grading impacts. The Project results in the relative low numbers of removed trees, as reported for Question 41 analysis. The minimal vegetation and tree removal, together with the location of the proposed trail within low quality habitat reduces the potential impact to wildlife habitat to a level of less than significant after mitigation (mitigation measure SR-1).

TRPA Sensitive Species. Waterfowl nesting habitat will not be modified due to trail construction or location as Dollar Reservoir will not be impacted as trail is located below the dam and crosses Dollar creek with a 100-foot bridge span. Northern goshawk has suitable foraging and nesting habitat in the project area within the mixed conifer habitat but has not been documented in the project area. Approximately 3.16 acres of suitable northern goshawk habitat may be lost as a result of Project implementation. Based on surveys completed to date, no occurrences of nesting Northern goshawks have

been recorded within or adjacent to the project area. However, because the timing for construction of the shared-use trail is unknown, the potential exists for Northern goshawk to establish a nesting territory prior to construction. Therefore this impact is considered potentially significant, requiring mitigation.

The Project results in the minor loss of foraging habitat for mule deer due to the installation of the shared-use trail. Mule deer feed on a variety of shrubs, forbs and grasses (Ahlborn 2006). Mule deer foraging habitat is diverse and plentiful within the project area and is not considered sensitive by TRPA. The loss of foraging habitat is minimal and will not result in large areas lost due to the linear nature of the Project, therefore this impact is considered less than significant.

CDFG Species. Sensitive species as defined by the CDFG that have been sighted or have suitable habitat within the project area include: Sierra Nevada yellow-legged frog, California spotted owl, California yellow warbler, Osprey, Sierra Nevada mountain beaver, and American marten.

Surveys for Sierra Nevada yellow-legged frog have not been performed in the project area with however as noted in Appendix H, suitable habitat is marginal. No individuals were observed during wetland delineations; however, the montane riparian habitat on the banks of the Dollar Creek provide suitable habitat for this species. The potential exists however, for mountain yellow-legged frogs to be present in the project area and to be directly impacted by construction of the proposed trail crossing at Dollar Creek, therefore this impact is considered significant.

Marginal suitable habitat exists within the project area for California spotted owl. Surveys for spotted owls have been performed within the project area in 2011with no detections. The habitat within the project area is marginal foraging and nesting habitat as the majority of the forest is second growth and does not contain many of the attributes that California spotted owls tend to prefer: multi layered canopy, high degree of canopy cover, large trees and other late seral forest characteristics. The closest Protected Activity Center is the Burton Creek Protected Activity Centers located 1.5 miles to the west of the project area and will not be impacted by use of the shared-use trail or construction activities. No PACs or Home Range Core areas will be impacted by the Project. However, the potential exists for California spotted owls to take up residence before commencement of construction and be directly or indirectly impacted as a result of the Project. Direct impacts result if nesting California spotted owls are present within or immediately adjacent to the project area. If presence of a nesting pair occurred on Conservancy lands, Conservancy Biologists will coordinate with CDFG biologists to determine adequate avoidance measures. Because the exact construction phasing of the shared-use trail is unknown, there is a possibility for California spotted owls to be present and impacted within the project area. Therefore, this impact is considered potentially significant and requiring mitigation, as described in mitigation measure BIO-1.

Suitable habitat for California yellow warbler exists within the project area in the form of riparian vegetation. Surveys were performed for this species within the project area, but it was not detected. While survey results were negative, the potential exists for this species to be present within the Project during construction. Due to the potential impacts that may result to yellow warblers that may be nesting within the project area, this impact is considered significant and requiring mitigation.

Montane riparian habitat present within the project area is marginally suitable for mountain beaver. Impacts to montane riparian habitat will occur as noted and described above. Surveys for mountain beaver have not occurred within the project area. Despite the lack of presence/absence data, it is unlikely that the impacts associated with installation of the bridge span will have an overall detrimental effect on this species because of the temporal impact on riparian habitat. Therefore, this impact is considered less than significant for this species.

The project area was not surveyed for forest carnivores. Construction and operations of the shared-use trail will result in the removal of trees and other vegetation that may be utilized by marten. American

marten prefer mixed conifer stands with a relative high degree of canopy closure. Modification of the existing environment as a result of trail construction will not result in removal or modification of marten habitat to a degree that decrease in viability of the existing marten population occurs. This impact is considered less than significant for this species.

Human use and presence in the form of hikers and mountain bikers on the existing unpaved trails is relatively widespread and common in the Project vicinity. The shared-use trail increases human use of the project area, but allows for concentration of use. The anticipated increase in use of the project area is relatively small and should not deter use of the habitat by marten or other wildlife species based on their current use of the area. Increased human presence may impact wildlife species in the area through increased levels of noise, the potential for elevated levels of trash and refuse within the project area.

Various species are more tolerant to human presence may become dependent on human food sources and therefore lose their ability to forage naturally. Black bear, American marten, Douglas squirrels, golden mantled ground squirrels, chipmunk spp., mountain chickadees and Clark's nutcracker are some species that are present within the project area and have been observed foraging for human food within residential areas. Consumption of human foodstuffs by these animals can lead to digestive and health problems and behavior modifications. Readily available human food and refuse limits these species ability to naturally forage and can cause dependency on human food. Animals becoming dependent on this non-natural foraging technique often become aggressive toward humans as they associate humans with food. Other behavior changes, such as delayed and decreased hibernation activity, smaller home range size and modified patterns of activity, are evident in black bears within the Tahoe Basin (Beckman and Berger 2003). While the Project may result in increased human presence in some areas, the degree of increase is not expected to result in an overall decrease in quality of wildlife habitat or result in significant impacts to wildlife species numbers or diversity.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation (See Questions 5 and 29 for descriptions):

SR-1. Tree Protection and Avoidance Measures

BIO-1. Pre-Construction Surveys for Wildlife Species

3.2.5 Cultural Resources (CEQA) and Archaeological/Historical (TRPA)

This section presents the analyses for potential impacts to cultural, archaeological and historical resources, discussing the Project impacts on cultural resources related to the disturbance of archaeological, historical, architectural, and Native American/traditional heritage resources. The section also addresses disturbance of unknown archaeological resources, as well as paleontological resources (fossils). Table 16 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 16

Cultural Resources and Archaeological/Historical

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
47. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? (CEQA 5a)		X		
48. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (CEQA 5b)		X		
49. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (CEQA 5c)				X
50. Disturb any human remains, including those interred outside of formal cemeteries? (CEQA 5d)		X		
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
51. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building? (TRPA 20a)		X		
52. Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official		X		

maps or records? (TRPA 20b)				
53. Is the property associated with any historically significant events and/or sites or persons? (TRPA 20c)		**X**		
54. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? (TRPA 20d)		**X**		
55. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area? (TRPA 20e)		**X**		

3.2.5.1 Environmental Setting

Current environmental review policies, in compliance with the TRPA mandates under revised Code Chapter 67 (Historic Resource Protection), guidelines under CEQA Section 10564.5, California PRC Section 5020 et seq., Archaeological Resources Protection Act of 1979, Procedures of the Advisory Council on Historic Preservation, 36 CFR 800, and FSM 2361 require that heritage resources be considered as part of the environmental review process.

Construction staging areas are located within the Area of Potential Effects (APE). There are no detours necessary for this Project as no street crossings are proposed. The Project does cross SR 28 just west of its intersection with Dollar Drive, but all improvements are in the SR 28 ROW. There are no utilities to reroute within the APE and the Project does not require demolition-related activities.

The Area of Potential Effects (APE) has been established in consultation with Caltrans District 3 guidelines and will be submitted to Caltrans for approval if required for NEPA documentation. According to Section 106 of the NHPA, as amended, the APE is defined as:

> ...the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d]).

The APE for archaeological resources are the areas, surface and subsurface, that could experience ground disturbance as a result of construction activities including creating the path, bridge construction, and plant removal (Figures 3 and 4 of the Archaeological Survey Report (ASR) attached in Appendix I). A horizontal APE has been established with 15 feet from the centerline of the proposed trail alignment, construction access, and trailhead access and parking area to accommodate work and staging areas. The vertical APE corresponds to the individual ground-disturbing components outlined in the project description in Chapter 2.

Results of Records Search and On-Foot Surveys. Appendix I documents the archaeological survey conducted for the Project in Placer County, California. Preparing this report consisted of archival review at the North Central Information Center and a reconnaissance-level pedestrian field survey conducted in

October 2011. Appendix I details the methods and findings of this study, which consisted of a literature and records search and an on-foot field survey.

As assigned by FHWA, Caltrans has determined a Finding of No Historic Properties Affected, according to Section 106 PA Stipulation IX.A and 36 CFR 800.4(d) (1), is appropriate for this undertaking (ESA 2012).

The NCIC records search identified 27 previous cultural resource studies completed within a half- mile of the project area or APE (see Table 1 of Appendix I). The 27 surveys included 10 studies completed within or intersecting the project area (Jackson 1977; Munns 1997; Peak & Associates 1985, 1987 and 2007; Mead and Hunt 2007; EDAW 2007; URS 2008; and USACOE 2010).

Table 2 in Appendix I lists previously recorded cultural resources within the half- mile buffer of the APE. The NCIC records search revealed that 13 historic and prehistoric resources have been recorded within or adjacent to the project area or APE. Of the 13 identified resources two (2) were located within the trail alignment (P-31-1300, isolated pipe fragments; CA-PLA-1005H, a firestone can dump) and two (2) were located upgradient of the trail alignment but within the APE at Dollar Reservoir (CA-PLA-1006H, Dollar Creek Dam and Ice House; the continuation of P-31-1300).

The on-foot survey of the APE located an unrecorded isolated basalt flake. The basalt flake was an approximately 3 cm by 5 cm in size. It has no cortical material present. While no unifacial or bifacial flakes were observed, the edges of the flake exhibited utilization scars. An isolated prehistoric find consisting of fewer than three items per 100 square meters is exempt from evaluation under Caltrans Section 106 PA.

The on-foot survey of the APE also located isolated pipe fragments (P-31-1300H) along the existing trail. P-31-1300H was previously determined ineligible for listing in the National Register of Historic Places (NRHP) due to its lack of association and integrity. CA-PLA-1005H, a firestone can dump identified in North Central Information Center (NCIC), was not relocated during the course of survey.

No other cultural resources were identified within the APE. Therefore ESA staff recommends a finding of No Historic Properties Affected.

Background investigations indicated that no prehistoric archaeological resources had been recorded within the APE and that some pipe remnants were the only identified historic-period resource. The on-foot surface survey observed the pipe remnants and located an unrecorded isolated basalt flake. Research indicates that the APE has a moderate to high potential to contain buried archaeological resources.

National Register of Historic Places-Listed Properties. No National Register of Historic Places (NRHP) listed properties exist within a quarter- mile of the APE. The Watson Log Cabin, near the intersection of SR 28 and SR 89 in Tahoe City is the nearest NRHP-listed resource. Robert Montgomery Watson built the log cabin in 1908 for his son Robert Watson as a present for his marriage to Stella Tong in 1909. The cabin is approximately 2.5 miles southwest of the APE.

California Historic Landmarks. No California Historic Landmarks (CHL) exist within a quarter- mile of the APE. The nearest CHL is the Squaw Valley Cable Car Building Lobby, over 7 miles west of the APE. The building was constructed in 1860.

Summary of Native American Consultation. ESA staff submitted a sacred lands search request to the Native American Heritage Commission (NAHC) on September 23, 2011. The NAHC responded on October 27, 2011. A records search of their sacred land file did not indicate the presence of Native American cultural resources in the APE. The NAHC provided a list of Native American

individuals/organization that might have additional information or concerns. ESA staff contacted each person on the list by letter on October 27, 2011. The Shingle Springs Rancheria responded with no knowledge of cultural resources in the APE, but also requested progress updates and copies of survey reports and record searches. There have been no other responses, including from the Washoe Tribe, as of May 2012.

Summary of Others Who Were Consulted. A letter was sent to the Placer County Historical Society and the North Lake Tahoe Historical Society on October 18, 2011 requesting any information or concerns about the project APE. No response, including from the Washoe Tribe, has been received as of this writing.

3.2.5.2 Environmental Analysis and Mitigation Measures

47. Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? (CEQA 5a)

Standard of Significance: If the Project adversely affects important examples of major periods of California history or pre-history, a significant impact results to historical resources. Impacts to eligible or potentially eligible resources include those resulting from construction, operation, or maintenance activities that adversely impact the integrity of prehistoric or historic archaeological resources and are unavoidable based on the Project trail placement.

While the Project does not impact known resources, the trail alignment is located near known resources. Because research indicates that the APE has a moderate to high potential to contain buried archaeological resources, a possibility exists of unearthing unknown buried resources during construction. Implementation of mitigation measure CUL-1 reduces potential impacts to unknown historical resources. Completion of a cultural resources monitoring plan allows for the timely response to the identification of unanticipated or inadvertent impacts to historical resources.

Environmental Analysis: *Less than Significant after Mitigation*.

Required Mitigation:

CUL-1. Cultural Resource Monitoring Program

A qualified archaeological monitor shall be present during initial ground disturbing activities to identify previously unknown significant or potentially significant historical and archaeological resources that may be eligible for inclusion in the NRHP, the CRHR, or eligible for designation as a TRPA historical resource, and to identify any unanticipated or inadvertent impacts to known historical or archaeological resources. The responsibilities of the archaeological monitor shall include: inspecting, documenting, and describing cultural material identified during monitoring; communicating with construction personnel; and notifying agencies (e.g., the SHPO, and TRPA) if previously unidentified historical or archaeological resources are encountered that may be eligible for inclusion in the NRHP, the CRHR or eligible for designation as a TRPA historical resource. Archaeological monitors shall have the authority to halt construction activities that have the potential to disturb significant historical or archaeological resources until appropriate measures can be implemented.

Ground disturbing activities in the vicinity of the resource shall cease if the archaeological monitor determines that continuation of activity shall affect a significant historical or archaeological property, or if human remains are identified. If the archaeological monitor identifies cultural material but is unable to determine whether the resumption of the construction

activity will affect historical or archaeological resources that may be eligible for listing, the monitor shall contact the appropriate agency official. Subsequent notification and consultation shall follow regulations pertaining to the evaluation of significance, assessment of effects, and consultation with the SHPO and the ACHP, as appropriate (36 CFR, part 800.4 through 800.9).

There is a possibility of encountering human remains during ground disturbing construction activities (Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human grave). If human graves are encountered, work shall halt in the vicinity and the Placer County Coroner shall be notified. At the same time, an archaeologist shall be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 48 hours of this identification.

48. Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (CEQA 5b)

Standard of Significance: If the Project causes "a substantial adverse change in the significance of an historical or archaeological resource" (i.e. physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings) pursuant to PRC Section 15064.5, a significant impact results to archaeological resources.

The Project will cause no substantial adverse change to the four (4) sites identified along or in the vicinity of the trail alignment. While the Project does not impact known resources, the trail alignment is located near known resources. Because research indicates that the APE has a moderate to high potential to contain buried archaeological resources, implementation of mitigation measure CUL-1 allows for the timely response to the identification of unanticipated or inadvertent impacts to known archaeological resources.

Environmental Analysis: *Less than Significant after Mitigation*.

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

49. Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (CEQA 5c)

Standard of Significance: A significant effect on the environment occurs if the Project has the potential to pose a significant impact to paleontological resources identified during construction related ground disturbing activities, if any paleontological resources are identified during construction, as provided in PRC Section 5097.98, or if the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The significance of paleontological resources is determined in part by compliance with the Antiquities Act of 1906. Fossil remains of vertebrates are considered significant resources.

The project area contains no unique paleontological resources or geologic features, and therefore, no paleontological resources or unique geologic features will be directly or indirectly destroyed by the Project.

Environmental Analysis: *No impact.*

Required Mitigation: **None**.

50. Would the Project disturb any human remains, including those interred outside of formal cemeteries? (CEQA 5d)

Standard of Significance: The potential exists to pose a significant impact to human remains identified during construction related ground disturbing activities. A significant impact results if the Project affects human remains.

Cultural resource studies identified no formal cemeteries within the project area. Encountering buried resources is unlikely in the environment of the project area. However, as with any ground-disturbing activity, the possibility of encountering buried resources that were not revealed during intensive surface investigations exists. Therefore, this impact is considered potentially significant and requiring mitigation. The presence of archaeological monitors during ground disturbing activities and completion of a cultural resources monitoring program, as outlined in mitigation measure CUL- 1, reduces potentially significant impacts to a level less than significant by allowing for the timely response to the identification of any unanticipated or inadvertent impacts to known historical or archaeological resources and/or human remains.

Environmental Analysis: *Less than Significant after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resources Monitoring Program

51. Will the Project result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building? (TRPA 20a)

No, with mitigation. Standard of Significance: See analyses for Questions 47 and 48, which address CEQA checklist items 5a and 5b, respectively, and conclude that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

52. Is the Project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records? (TRPA 20b)

No, with mitigation. Standard of Significance: See analysis for Questions 47 and 48, which address CEQA checklist items 5a and 5b, respectively, and conclude that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

53. Is the Project associated with any historically significant events and/or sites or persons? (TRPA 20c)

No, with mitigation. Standard of Significance: See analysis for Question 47, which addresses CEQA checklist item 5a and concludes that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

54. Does the Project have the potential to cause a physical change which would affect unique ethnic cultural values? (TRPA 20d)

No, with mitigation. Standard of Significance: See analysis for Question 47, which addresses CEQA checklist item 5a and concludes that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

55. Will the Project restrict historic or pre-historic religious or sacred uses within the potential impact area? (TRPA 20e)

No, with mitigation. Standard of Significance*:* See analysis for Question 48, which addresses CEQA checklist item 5b and concludes that the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 47 for description):

CUL-1. Cultural Resource Monitoring Program

3.2.6 Geology and Soils (CEQA) and Land (TRPA)

This section presents the analyses for potential impacts to geology, soils and land. Table 17 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 17

Geology and Soils and Land

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
56. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? (CEQA VIa)		X		
57. Result in substantial soil erosion or the loss of topsoil? (CEQA VIb)		X		
58. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (CEQA VIc)		X		

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
59. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (CEQA VId)		X		
60. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? (CEQA VIe)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
61. Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)? (TRPA 1a)				X
62. A change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions? (TRPA 1b)				X
63. Unstable soil conditions during or after completion of the proposal? (TRPA 1c)		X		
64. Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet? (TRPA 1d)				X
65. The continuation of or increase in wind or water erosion of soils, either on or off the site? (TRPA 1e)		X		
66. Changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake? (TRPA 1f)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
67. Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards? (TRPA 1g)		X		

3.2.6.1 Environmental Setting

Topography. The Kings Beach, California 7.5-minute United States Geological Survey (USGS) quadrangle map illustrates the project area in Township 16N, Range 17E Sections 28, 29, 33, Mount Diablo Meridian. The project area, by the nature of a linear public facility, crosses a variety of topography associated with forested foothills, open meadow and developed residential areas between the elevations of 6,500 and 7,000 feet above mean sea level (msl). The general topography of the surrounding the project area is mountainous with an overall slope from the northwest to the east and southeast. The linear project area follows generally flat to rolling slopes; however, side slopes approach 30 percent at times.

Geology. The project area is at the margin of two geologic regions: the Sierra Nevada and Basin and Range Geomorphic Regions. Characteristic of the Sierra Nevada Region, the geologic setting of the project area is mountainous developed primarily on granitic bedrock of the Sierra Batholith (Saucedo 2005), which represents a series of igneous intrusions that occurred during the Paleozoic Era around 575 to 270 million years ago. The Sierra Nevada region has been uplifted as a tectonic block.

The tectonic conditions and geologic structure of the Lake Tahoe Basin are characteristic of the Basin and Range Region. The Lake Tahoe Basin is a fault-bounded valley formed by the extensional tectonic regime that defines the Basin and Range (Schweickert et al. 2004).

The surface geology of the project area, illustrated in Figure 19, is predominately Miocene andesitic and dacitic lahars, flows, breccia and volcaniclastic sediments (Mva) with a small portion of the northern project area comprised of Pliocene andesite and basaltic andesite flows (Pva) and Miocene andesite and dacite flows (Mvaf), which are defined as follows (Saucedo 2005):

- Pva – Unnamed volcanic and intrusive rocks: Light- to dark-gray, fine-grained porphyritic, massive to locally flow-banded andesite and basaltic andesite flows. Occurs as continuous flows and isolated remnants of larger flows deposited in channels eroded in older Tertiary volcanic deposits. Includes lava domes in the Agate Bay area (Wise and Sylvester, 2004). Harwood and Fisher (2002) report K-Ar whole-rock ages that range from 3.3±0.09 to 4.7±0.1 Ma on andesite flows in the Homewood, Tahoe City, and adjacent quadrangles to the west.

- Mva - Unnamed volcanic and intrusive rocks: Undivided andesite, trachyandesite, basaltic andesite and dacite lahars, flows, breccia and volcaniclastic sediments; local basalt flows. In part, may include rocks of Pliocene age. Locally includes rhyolite tuff. Includes Mehrten, Relief Peak and Kate Peak formations.

- Mvaf - Unnamed volcanic and intrusive rocks: Massive to platy andesite, includes hornblende- and pyroxene-andesite flows and dacite flows. Locally includes andesite and dacite domes; in part may be Pliocene. May locally include trachybasalt and basalt flows. An andesite flow west of the map area in the Norden quadrangle gives an Ar/Ar hornblende age of 6.33± 0.25 Ma.

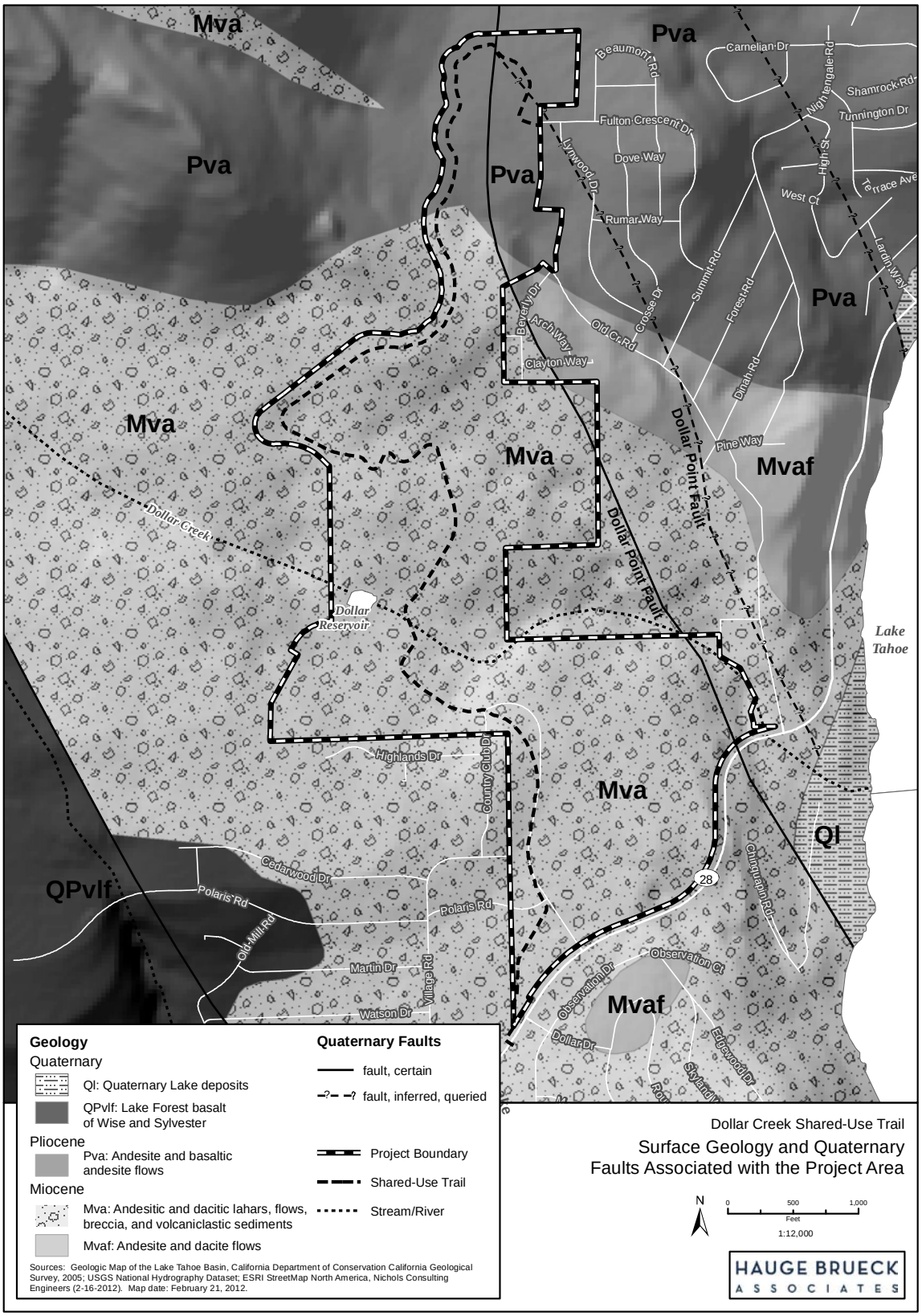
Geologic Hazards. Potential geologic hazards within and in the vicinity of the project area in are assessed in accordance with the requirements of the California Board for Geologists and Geophysicists (Board) Geologic Guidelines for Earthquake and/or Fault Hazard Reports; the Board Guidelines for Engineering Geologic Reports; California Geological Survey (CGS) Special Publication 42, Fault-Rupture Hazard Zones in California: Alquist-Priolo Earthquake Fault Zoning Act with index to Earthquake Fault Zone Maps (Hart and Bryant 1997); and CGS Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Division of Mines and Geology 1997).

Potential geologic hazards for the project area include proximity to potentially active faults and liquefaction resulting form subsurface soil conditions. Project area conditions do not contribute to increased risk from debris flows, flooding, rock fall or avalanche. A common effect of earthquakes that could occur in the project area is ground shaking along a fault.

The most significant geologic hazards associated with the project area are from earthquakes and their associated effects. Earthquakes present direct (primary) and indirect (secondary) hazards; both of which can occur locally or at locations distant from the earthquake source. Direct, local earthquake hazards include damage caused by fault displacements either by ground surface rupture or gradual fault creep. The damage caused by ground shaking is also a direct effect; however, shaking can occur locally or at remote locations. Indirect hazards presented by earthquakes include liquefaction and earthquake-induced landslides, both of which are triggered by ground shaking. The portions of the project area that are located on or near steep terrain could be subject to slope instability (landsliding, both gravitational or earthquake-induced) hazards, but slopes within the project area are less than 30 percent. Roads, structures, pipelines, utilities lines, dams and embankments in the project area vicinity may also be subject to this hazard. The analysis of these hazards is based on an understanding of the potential for these events to occur in the project area.

Fault Rupture and Creep. Based on a review of the Preliminary Map of Pleistocene to Holocene Faults in the Lake Tahoe Basin (Schweickert et. al. 2000), the project area intersects the Dollar Point Fault, an active fault. As a result, the potential exists for displacement caused by fault rupture or creep along the section of asphalt concrete trail and cut and fill slopes in the northern portion of the project area as illustrated in Figure 19.

Figure 19. Surface Geology and Quaternary Faults Associated with the Project Area



Ground Shaking. The severity of ground shaking due to an earthquake is determined by several factors including the size of the earthquake, fault rupture characteristics, and proximity of the earthquake to the site of interest. The type of soil or bedrock beneath the site also determines the strength of ground shaking. For this evaluation, ground shaking is described by the Modified Mercalli scale, which is a method involving 12 levels of intensity denoted by Roman numerals. The scale relates human perception and amount of damage. Modified Mercalli intensities range from I (shaking that is not felt) to XII (total damage).

The project area is mapped as having a probable maximum earthquake intensity of IX or X on the Modified Mercalli scale, which is a magnitude range of 6.5 to 7.0. Intensity IX involves violent ground shaking and heavy damage. The effects of Intensity IX are described as "considerable damage to designed structures; well designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse; underground pipes may be broken". Damage under Intensity X is even greater, with "some well built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked".

The majority of the project area is located in areas that will experience moderate severity of ground shaking during an earthquake. The project area crosses Dollar Creek, which is an area that will experience the greater severity of ground shaking due to soil conditions.

The California Geological Society (CGS) maintains a web-based computer model that estimates probabilistic seismic ground motions for any location within California. The computer model estimates the "Design Basis Earthquake" ground motion, which is defined as the Peak Ground Acceleration (PGA) with a 10 percent chance of exceedance in 50 years (475-year return period). The estimated PGA for the project area is approximately 0.3g; thus indicating that the ground shaking hazard in the project area is moderate (http://www.conservation.ca.gov/; accessed February 29, 2012). The PGA values are typically described for uniform soft rock site conditions similar to the project area.

Liquefaction. Liquefaction occurs in water-saturated sediments that are shaken by moderate to large earthquakes. Liquefaction hazard analysis involves understanding the potential for ground shaking combined with the physical properties and conditions of the soil. Soils most susceptible to liquefaction are saturated, loose, clean, uniformly graded, and fine-grained sand deposits. Geologic age also influences the potential for liquefaction. Sediments deposited within the past few thousand years are generally much more susceptible to liquefaction than older Holocene age sediments; Pleistocene age sediments, which are between 12,000 and 2.5 million years, are even more resistant; and pre-Pleistocene age sediments (more than 2.5 million years) are generally immune to liquefaction (California Division of Mines and Geology 1997).

Earthquake-Induced Landslides, Avalanches and Rock Fall. Landslides and debris flows triggered by earthquake ground shaking have historically been the cause for a great deal of property damage and loss of life. Areas most susceptible to earthquake-induced landslides are generally on steep slopes or adjacent to existing landslide deposits. The possibility of landslides and seismically induced slope instability is considered low due to topography within and upslope of the project area. The trail alignment generally avoids areas of steep slopes.

Moderate or large avalanches can generate enough force to destroy most man-made objects and structures. Restricting the intensity of development in areas of high avalanche potential reduces the possibility of loss of life and property. Therefore, avalanche risk areas are taken into consideration during development review. Substantial potential for avalanche within the project area does not exist due to topography.

Because shallow groundwater may be encountered at Dollar Creek during construction, but seepage would not be substantial enough to initiate debris flow mobilization and shallow landslides.

Soils. The NRCS maps soils in the Lake Tahoe Region, as described in the Soil Survey of the Tahoe Basin Area, California and Nevada (USDA 2007). Based on the NRCS Soil Survey (2007) in concert with the review of the Land Capability and Land Coverage Report prepared for the project area, there are two (2) soil series that dominate four (4) soil map units in the project area: Tahoma and Jorge. Figure 20 illustrates the distribution of the soil groups present in the project area, and Table 18 outlines the soil characteristics pertinent to geotechnical evaluations.

Subsurface Conditions. Section 3.2.9, Hydrology and Water Quality, details the expected groundwater conditions for the project area.

Land Capability and Coverage. The TRPA established a land capability system based upon the Bailey Land Classification System methodology (Bailey 1974). Land capability classification delineates the amount of impermeable development coverage (e.g. base allowable land coverage) that may exist within a land capability district (LCD). LCDs 1 to 3 are more sensitive to development, with LCD 1 being the most environmentally fragile. LCD 1b (also referred to as Stream Environment Zones or SEZ) is assigned whenever land is influenced by a stream or high groundwater.

TRPA revised Code Chapter 90 defines Land Coverage as a man-made structure, improvement, or covering that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement or covering. Hard coverage typically describes structures, improvements or coverings that inhibit more than 75 percent of precipitation from directly reaching the soil or inhibits the growth of vegetation included in TRPA's most current approved species list. Soft coverage describes compacted areas without structures, improvements or coverings.

CardnoEntrix staff completed the land capability and land coverage verifications for the project area in October 2011. TRPA staff reviewed and approved these verifications in early 2012. The project area includes LCDs 1b, 4 and 6. Appendix J contains the TRPA land coverage and land capability verifications confirming these LCDs. Existing coverage within the project area includes unpaved roads and trails and road shoulders. Table 19 presents verified existing land coverage, base allowable land coverage, and proposed land coverage totals by LCD.

Verified existing land coverage for the 11,267,603 square foot (258.7 acres) project area is 54,372 square feet (1.25 acres). TRPA allowable base land coverage within the project area equates to 3,229,159 square feet (74.1 acres). The Project adds 165,690 square feet (3.8 acres) of new land coverage to the project area.

Table 18

Project Area NRCS Soil Characteristics

Soil Type[1]	Parent material[2]	Surface Runoff Class[3]	Shrink/ Swell Potential[4]	Permeability[5]	Drainage Class[6]	Available Water Capacity[7]	Hydrologic Group [8]
Jorge Very cobbly fine sandy loam, 5 to 15% slopes, rubbly	Colluvium derived from andesite	Low	Low	Moderate	Well Drained	5.7 inches	B
Jorge Very cobbly fine sandy loam, 15 to 30% slopes, rubbly	Colluvium derived from andesite	Medium	Low	Moderate	Well Drained	5.7 inches	B
Tahoma Very cobbly sandy loam slopes, 15 to 30% slopes, very stony	Colluvium over residuum weathered from andesite	Low	Low	Slow above the bedrock	Well Drained	8.7 inches	B
Tahoma-Jorge complex, 2 to 15 percent slopes	Colluvium over residuum weathered from andesite	Low	Low	Slow above the bedrock	Well Drained	8.7 inches	B

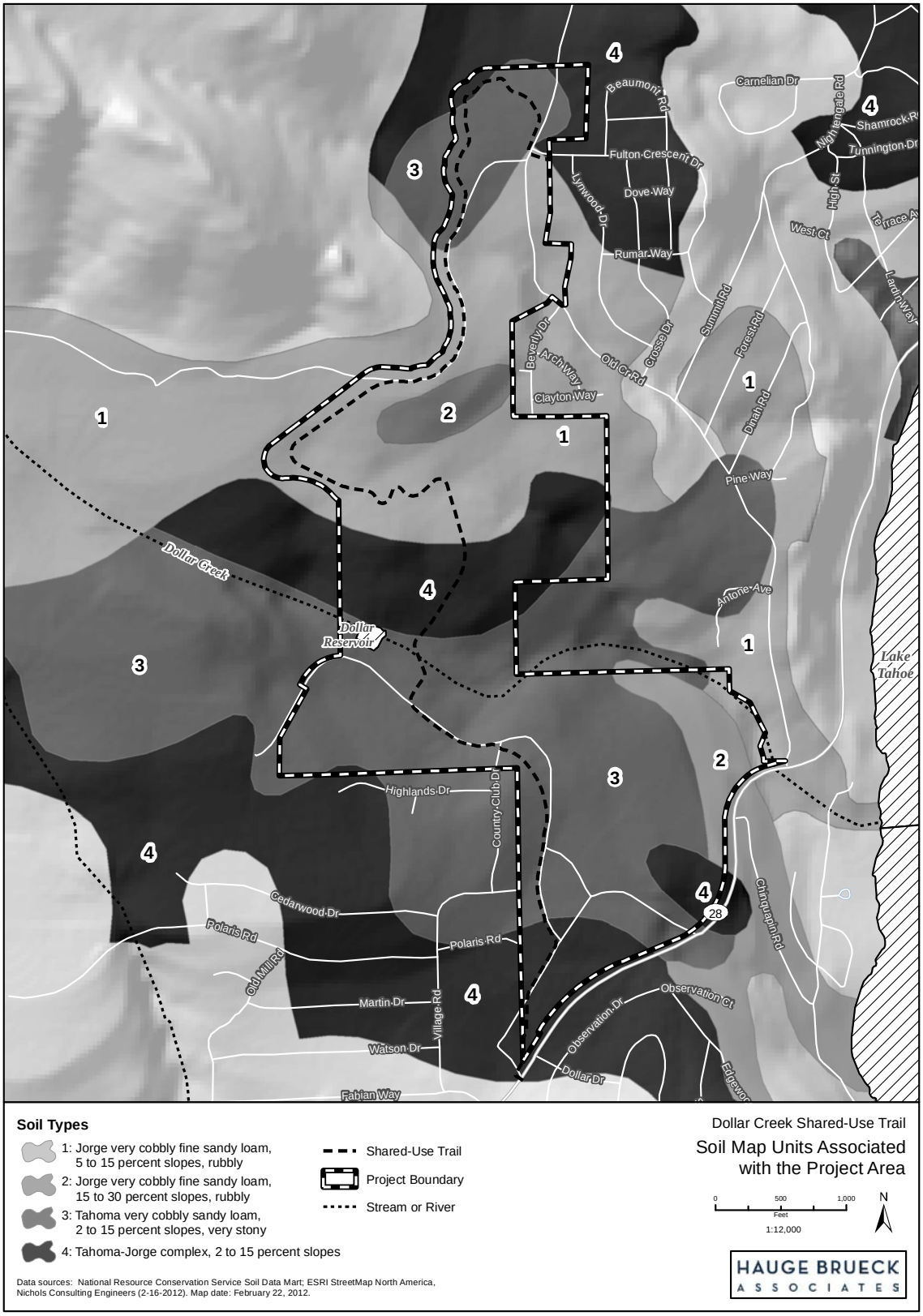
Source: NRSC 2007 Soil Survey Maps; HBA 2011

Notes:

1. See Figure 20 for locations of NRCS Soils
2. Parent material. The unconsolidated and chemically weathered mineral and organic material in which the solum of a soil is formed as a result of pedogenic processes. Granitic. A textural term commonly pertaining to an igneous intrusive rock of felsic to intermediate composition. Referring to granite like rock, but not necessarily true granite. Commonly applied to granite, quartz monzonite, granodiorite, and diorite. Granodiorite. An igneous intrusive rock that is intermediate between felsic and mafic in composition and contains quartz and somewhat more plagioclase than orthoclase.

3. Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.
4. Shrink/Swell Potential provides criteria for determination of expansive soil properties.
5. Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality.
6. Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."
7. Available water capacity (AWC) (available moisture capacity). The volume of water that should be available to plants if the soil, inclusive of fragments, were at field capacity. It is commonly estimated as the difference between the amount of water at field capacity and the amount at wilting point with adjustments for salinity, fragments, and rooting depth. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as: Very low 0 to 2.5; Low 2.5 to 5.0; Moderate 5.0 to 7.5; High 7.5 to 10.0; Very high more than 10.0.
8. Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Hydrologic Soils Group Definitions: A =low runoff potential (0.30 to 0.45 in/hr); B=moderate runoff potential (0.15 to 0.30 in/hr); C=moderately high runoff potential (0.05 to 0.5 in/hr); D=high runoff potential (less than 0.05 in/hr)

Figure 20. Soil Map Units Associated with the Project Area



3.2.6.2 Environmental Analysis and Mitigation Measures

56. Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

56.i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? (CEQA VIa).

Standard of Significance: For Question 56i through 56iv, the location of facilities within an Alquist-Priolo earthquake fault zone or known active fault zone or the location of facilities within areas of unstable soil without appropriate design features or construction controls constitutes a significant impact.

The intention of the Alquist-Priolo Earthquake Fault Zoning Act (PRC Section 2621-2630) is to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors and prohibiting the location of most types of structures intended for human occupancy across the traces of active faults. The act defines criteria for identifying active faults, giving legal support to terms such as active and inactive and establishes a process for reviewing building proposals in Earthquake Fault Zones. As defined by the Alquist-Priolo Earthquake Fault Zoning Act (1972), an active fault is one that has had surface displacement within Holocene time or the last 11,000 years.

The project area is located within the Sierra Nevada-Great Basin seismic belt. Based on the Division of Mines and Geology Special Publication 42 and the Index to Official Maps of Earthquake Fault Zones (Hart and Bryant 1997), the project area is not located in the Alquist-Priolo Earthquake Fault Zone. Figure 19 illustrates the approximately located and inferred/queried faults in the vicinity of the project area. These inferred faults are not listed in Alquist-Priolo Earthquake Fault Zones because they do not have surface ruptures and are not officially recognized.

The risk of fault rupture is a less than significant impact based on existing published data of officially recognized faults and proximity of the project area to such faults. The Project establishes and relocates land coverage with minimal alteration to the existing landscape and does not increase the present surface rupture hazard nor constructs habitable structures in these areas.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

GEO-1. Submit Final Geotechnical Report

The Project Applicant shall submit to the Engineering and Surveying Department (ESD) of Placer County, for review and approval, a geotechnical engineering report produced by a California Registered Civil Engineer or Geotechnical Engineer. The report shall address and make recommendations on the following:

A) Road, pavement, and parking area design

B) Structural foundations, including retaining wall design (if applicable)

C) Grading practices

D) Erosion/winterization

E) Special problems discovered on-site, (i.e., groundwater, expansive/unstable soils, soil creep, etc.)

F) Slope stability

G) Utility trench design, including seismic design for sewer and water utilities crossing fault lines

Once approved by the ESD, two copies of the final report shall be provided to the ESD. If the soils report indicates the presence of critically expansive or other soils problems that, if not corrected, could lead to structural defects, a certification of completion of the requirements of the soils report shall be required for subdivisions, prior to approval of the Improvement Plans. It is the responsibility of the developer to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report.

GEO-2. Standard Engineering Practices for Seismic Coefficients

The Project shall implement facility features and design appropriate to local seismic coefficients (e.g., 0.3g) to minimize the damage potential from ground shaking hazards on facility features such as a bridge, drainage features, and trail surfaces. Site-specific geotechnical investigations at locations such as the Dollar Creek crossing and retaining wall locations shall provide necessary engineering details, including appropriate site preparation, excavation of unstable materials, structural fill, compacted fill, subsurface drainage, and subgrade and aggregate base for asphalt concrete trail surfaces.

56.ii) Strong seismic ground shaking?

The project area is located in a region traditionally characterized by moderate seismic activity. A large earthquake in the project area vicinity could cause moderate to high ground shaking in the project area. Anticipated ground acceleration at the project area is great enough to cause structural damage to shared-use trail features, such as warping or cracking of the trail surface.

Implementation of design features and construction controls appropriate to seismic coefficients as outlined in mitigation measure GEO-2, minimizes the potential ground shaking hazards on structures and features in the project area. As engineering details develop, additional geotechnical investigations at locations such as the Dollar Creek, will direct engineering specifications for structures such as bridges, retaining walls, and causeways, as outlined in mitigation measure GEO-1. These include appropriate site preparation, excavation of unstable materials, structural fill, compacted fill, subsurface drainage, subgrade and aggregate base for paved trail surfaces to minimize the adverse effects from ground shaking.

The Project constructs no occupied structures and thus exposes no new occupants to ground shaking or injury resulting from seismically induced structural damage.

Through conformance to federal, regional, State and local codes and requirements and implementation of facility features and construction controls, the potential impact from ground shaking is avoided, minimized and reduced to a level of less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-2. Standard Engineering Practices for Seismic Coefficients

56.iii) Seismic-related ground failure, including liquefaction?

Review of available literature and project area soil maps indicates that the sandy soils below the groundwater table are dense in nature and thus not as susceptible to liquefaction. Liquefaction associated with earthquake activity is not likely to occur within the majority of the project area due to the high rock content of the soils. With such high rock content, the saturation levels of the soils do not reach a state of liquefaction readily.

Locations with shallow groundwater and less dense sandy soil could be more susceptible to liquefaction. Because shallow groundwater is likely to be encountered at Dollar Creek, a potential for liquefaction exists in these portions of the project area. The Project installs design features and construction controls appropriate to seismic coefficients (e.g., 0.3g) to minimize the potential effects from liquefaction, as described for mitigation measure GEO-2.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-1. Standard Engineering Practices for Seismic Coefficients

56.iv) Landslides?

The possibility of landslides and seismically induced slope instability is considered low because of the topography within and adjacent to the project area. The impact level is less than significant because most locations along the trail alignments that are adjacent to steep slopes support existing development and private residences. The construction and operation of a shared-use trail does not increase the potential for landslides or seismically induced slope instability. Facility features and construction controls are built into the proposal for avoidance, reduction and minimization of impacts from landslides and seismically induced slope instability. These include use of retaining walls in areas with steep side slopes to reduce earthwork requirements and to stabilize adjacent slopes. Revegetation of slopes disturbed during Project construction corresponds to the type of disturbance and complies with State, County and TRPA codified regulations through implementation of mitigation measure GEO-2.

A rock outcrop is adjacent to the project area at an existing bouldering area used for recreation; so, the potential for seismically induced rock fall could exist. The potential impact is reduced to a level of less than significant through establishment of adequate distance between this single rock outcrop and the trail. Based on available literature, the slopes present within and adjacent to the project area do not present a significant potential for avalanche. The final construction plans will incorporate the recommendations of geotechnical evaluations to further reduce potential impacts from secondary geologic hazards to a level of less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-1. Standard Engineering Practices for Seismic Coefficients

57. Would the Project result in substantial soil erosion or the loss of topsoil? (CEQA VIb)

Standard of Significance: Significant impacts result from non-compliance with TRPA revised Code Chapters 30, 33 and 60, the 208 Plan, the Lahontan Basin Plan (Chapter 5) or construction permit conditions requirements for the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

The project description in Chapter 2 includes provisions to prevent short-term erosion from construction impacts and long-term erosion from operational and maintenance activities.

Short-Term. The potential for erosion is greatest during the construction period and prior to establishment of revegetation plantings. Construction of the Project involves soil disturbance and vegetation removal from clearing and grubbing activities, grading for cut and fill slopes necessary to achieve final shared-use trail grades and the actual construction of the shared-use trail. Construction activities could cause temporary, short-term increases in runoff, soil erosion, wind erosion and sedimentation within and down gradient of the project area. When disturbed sites are not adequately stabilized and revegetated, wind can dislodge soil particles and make them airborne. When runoff bypasses natural processes, this water is not infiltrated and filtered by soils to provide contribution to local groundwater supplies. Excess runoff can overwhelm stream channels with increased water volumes and pollutant concentrations and result in stream bank erosion, loss of vegetation, and reductions in functional aquatic habitat and SEZ.

The facility features and construction controls incorporated into the Project proposal to reduce short-term erosion potential include: construction phasing to limit the duration of construction and extent of disturbance present at one time and temporary BMPs. Temporary BMPs provide dust control, protect and stabilize stored materials, define work zones, staging and access areas to limit disturbance, slow runoff velocity and intercept sediment during storm events, and stabilize slopes during Project construction and initial vegetation establishment periods.

Facility features and construction control measures for these plans include, but are not limited to:

- Construction phasing that minimizes the extent of disturbance areas and duration of disturbance;
- Clearly marked staging hammerhead (i.e., designated turnarounds) and access areas;
- Armoring of staging, access and hammerhead areas;
- Construction equipment and vehicle restrictions;
- Temporary BMPs that are effective in containing the 20-year, 1-hour TRPA design storm;
- Topsoil salvaging and pile protection;
- Stabilization of slopes during Project construction and initial vegetation establishment periods;
- The Qualified Stormwater Pollution Prevention Plan (SWPPP) Practitioner or QSP present during construction assures BMP effectiveness and conducts remedial actions.

The project area presents few site challenges to construction that could limit the effectiveness of standard construction controls and facility features. To further avoid and minimize potential impacts of soil erosion and loss of topsoil from water or wind erosion, mitigation measures GEO-3 through GEO-6 will be implemented during construction activities.

Compliance with NPDES general construction permit (mitigation measures GEO-4 and GEO-5) and TRPA Erosion and Sediment Control Plan requirements and grading ordinance (mitigation measures GEO-3 and GEO-7) ensures that runoff, wind and water erosion, and sedimentation are contained on-site

during construction of the Project and that actions comply with grading restrictions. The ESCP determines the site-specific temporary BMPs for installation during construction activities. The SWPPP developed by a qualified engineer or erosion and sediment control specialist is submitted concurrently with the NOI to Lahontan 30 days prior to the start of construction for review and approval (mitigation measure GEO-4). As preparation of construction documents progress, details for the Lahontan-required SWPPP and the TRPA-required ESCP will refine Project proposals.

Mitigation measures GEO-6 assures that construction-related Best Management Practices (BMPs) are designed according to the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development / Redevelopment, and/or for Industrial and Commercial, and/or other similar source as approved by the Placer County ESD. Mitigation measure GEO-8 requires that the Project conform to the Placer County grading ordinance. Stockpiling and/or vehicle staging areas will be identified on the Construction/Improvement Plans and located as far as practical from existing dwellings and protected resources in the area, as detailed in mitigation measure GEO-9.

Long-term. The Project proposal includes hydrologic source controls to infiltrate runoff from the trail surface into the adjacent clear zones and avoid off-site impacts to soils. The Project stabilizes and revegetates areas disturbed during construction and maintains these areas as detailed in the OMMS in Appendix F. Long-term maintenance of these areas minimizes long-term effects to soils. The Project proposal minimizes soil disturbance and loss of topsoil through:

- Revegetation specifications that respond to site-specific conditions;
- Stabilization of cut and fill slopes;
- Adequate cross drainage;
- Installation of culverts in areas with evidence of surface drainage;
- Bridge span to avoid Dollar Creek stream channel and associated SEZ;
- Installation of asphalt concrete trail on permeable fill/vented trail in areas with evidence of seasonal surface hydrology; and
- Long-term monitoring and adaptive management strategies (Appendix F) to limit new disturbance from user created unpaved trails.

The Project must satisfy the requirements of Section II of the Land Development Manual (LDM), as outlined in mitigation measure GEO-10, for Placer County ESD approval.

This evaluation concludes that the Project proposal includes facility features and construction controls that are appropriate and adequate to minimize erosion on and off-site and stabilize soils during and upon completion of excavation, grading and fill activities. With implementation of mitigation measures GEO-3 through GEO-10, the Project conforms to federal, regional, State and local codified regulations for the control of soil erosion, thereby reducing potential impacts to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

The TRPA Erosion and Sediment Control Plan (ESCP) shall be prepared to identify the type and placement of temporary construction BMPs and shall be complimentary to the SWPPP required for NPDES permitting. Project construction documents shall demonstrate compliance with TRPA revised Code Chapter 60, Section 60.4.

GEO-4. File Permit Registration Documents (PRDs)

The County shall electronically file a Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) with Lahontan through the SMARTs system prior to any soil-disturbing activities to obtain coverage under Board Order R6T-2011-0019.

GEO-5. Conform to NPDES Permit Requirements

The Project shall comply with Lahontan Board Order R6T-2011-0019, entitled *General Waste Discharge Requirements and National Pollutant Discharge Elimination System for Discharges of Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado and Placer* (Permit No. CAG616002*).* The permit applies to construction sites and activities resulting in the disturbance of one or more acres of soil disturbance in the Lake Tahoe Hydrologic Unit. Construction activities include clearing, grading, demolition, excavation, construction or new structures and reconstruction. Most detail associated with SWPPP consideration shall be developed during preparation of the final construction plans and address features such as construction techniques and staging. The project description shall incorporate general features related to SWPPP requirements as follows:

a) Prevent discharge into surface water, including into SEZ and wetlands, during project construction. Critical areas of concern include construction near Dollar Creek and the SEZ and wetland areas.

b) To prevent discharge from soil or construction activities, construction plan proposals shall implement the following provisions:

- Construction scheduling shall respect site conditions and occur during the driest conditions possible.

- Construction activity including grading and equipment and materials movement shall be conducted within designated work areas near the trail surface, identified with construction fencing or other approved means.

- Site preparation for the construction zone includes tree and other vegetation removal. Brush, slash, timber, and removed stumps not used for restoration will be chipped for mulch or otherwise disposed of in accordance with local restrictions and regulatory requirements.

- Vegetation protection for existing trees and other vegetation.

- For SEZs, construction activities shall avoid existing vegetation removal to the maximum extent possible, including in areas of necessary equipment movement. Where necessary, construction proposals could also use linked landing plates, geotextile fabric topped with sand, or an alternative with equal or lesser impacts to protect work zone soils near the trail.

- Engineering and construction control details for the new bridge at Dollar Creek shall result from further geotechnical evaluation. Current project planning assumes new bridge supports can be piling or pier design; however use of concrete footings may be necessary. If so, dewatering for footings construction at Dollar Creek is possible. In that event, construction scheduling shall direct footings excavation to the driest

conditions possible. Excavation sites will be protected with sand bags, water berms, siltation fences, or other approved techniques. Localized pumping shall clear the construction area of turbid standing water. Pumped water could be used to irrigate planted vegetation, sprayed on uplands to allow infiltration at the project site, held in Baker Tanks, or otherwise treated to remove suspended sediment to comply with the requirements of the permit prior to discharge within the project area.

- Include location requirements for staging areas outside of SEZ and floodplains. Materials storage and stockpiles shall be protected from erosion with temporary siltation fences, straw wattles, or other approved methodologies. As potential staging areas sit within or adjacent to residential development, careful consideration of dust control provisions, including prevention of track-out, shall be necessary (mitigation measure AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan, provides more detail). Construction specifications shall employ exposed soil watering, stockpile protection, street sweeping and/or other techniques to control dust. Access to staging and site construction shall be protected with clean gravel or other approved material to reduce track-out.

- If construction conditions warrant equipment washing to prevent soil transport off site, the areas shall be identified in the SWPPP and located outside of sensitive areas and away from stream channels.

- Project construction involves the short-term use of hazardous materials necessary for operation and maintenance of construction equipment, (e.g., diesel fuel and hydraulic fluid). Hazardous materials shall be stored at the staging areas identified and prevented from contaminating the site from natural conditions or vandalism. Fueling and necessary maintenance of construction equipment shall occur outside of SEZ, wetland or floodplain areas and be managed to avoid site contamination. A spill response plan shall include provisions for worker training, spill containment, agency notice, and a remediation process.

- If construction for any given segment extends beyond a single construction season, the project area shall be stabilized to meet permit requirements for withstanding the 20-year, 1-hour storm.

- A QSP that is on-site during construction activities shall provide professional expertise and expedited response to correct issues that could arise during construction and shall assure compliance with permitting conditions and fulfillment of Project commitments.

c) Prevent discharge into surface water throughout the life of the project. Key facility features to address these requirements shall include installation of permanent BMPs and water quality protection controls, revegetation and restoration of disturbed soil, and minimization of foot trail width where necessary. The Project proposal includes an Operations, Management and Maintenance Strategy (OMMS), which outlines anticipated maintenance schedules for post-construction and permanent BMPs.

d) Properly site staging and stockpiling areas shall reduce potential impact to surface water quality by locating these areas on higher capability lands, maximizing distance to streams and conveyance systems.

e) Develop appropriate procedures to follow in the event that contaminated soil or groundwater is encountered during construction activities. The NTFPD shall review the document for approval for implementation.

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

Construction-related Best Management Practices (BMPs) shall be designed according to the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development / Redevelopment, and/or for Industrial and Commercial, (and/or other similar source as approved by the ESD). Construction (temporary) BMPs for the Project could include, but are not limited to: Fiber Rolls (SE-5), Hydroseeding (EC-4), Stabilized Construction Entrance (LDM Plate C-4), Storm Drain Inlet Protection (SE-10), Silt Fence (SE-1), revegetation techniques, dust control measures, and concrete washout areas.

The Discharger/Project Applicant shall minimize or present pollutants in stormwater discharges and non-authorized non-stormwater discharges through the use of controls, structures and management practices that achieve Best Available Technology for toxic and non-conventional pollutants and Best Conventional Pollutant Control Technology (BCT) for conventional pollutants. Stormwater controls and control locations shall be installed per the SWPPP for the active project area. Construction BMPs shall be installed per Section V111. Best Management Practices (BMPs) of Board Order R6T-2011-0019 for site management, sediment and erosion/stabilization controls, and construction site dewatering or diversions.

GEO-7. Comply with TRPA Grading Period

Soil-disturbing activities shall be conducted between May 1 and October 15.

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

Proposed grading, drainage improvements, vegetation and tree removal shall be shown on the Construction/Improvement Plans and all work shall conform to provisions of the County Grading Ordinance (Ref. Article 15.48, Placer County Code) and Stormwater Quality Ordinance (Ref. Article 8.28, Placer County Code) that are in effect at the time of submittal. No grading, clearing, or tree disturbance shall occur until the Construction/Improvement Plans are approved and all temporary construction fencing has been installed and inspected by a member of the Development Review Committee (DRC). Cut/fill slopes shall be at a maximum of 2:1 (horizontal: vertical) unless a soils report supports a steeper slope, but fill slopes shall not exceed 1.5:1 (horizontal: vertical) and ESD concurs with said recommendation.

The Project Applicant shall revegetate all disturbed areas. Revegetation undertaken from April 1 to October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with Project Construction/Improvement Plans. It is the applicant's responsibility to assure proper installation and maintenance of erosion control/winterization before, during, and after Project construction. Soil stockpiling or borrow areas shall have proper erosion control measures applied for the duration of the construction activity as specified in the Construction/Improvement Plans. Provide for erosion control where roadside drainage is off of the pavement, to the satisfaction of the ESD.

If, at any time during construction, a field review by County personnel indicates a significant deviation from the proposed grading shown on the Improvement Plans, specifically with regard to slope heights, slope ratios, erosion control, winterization, tree disturbance, and/or pad elevations and configurations, the plans shall be reviewed by the DRC/ESD for a determination of substantial conformance to the Project approvals prior to any further work proceeding. Failure of the DRC/ESD to make a determination of substantial conformance may serve as grounds for the revocation/modification of the Project approval by the appropriate hearing body.

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Construction/Improvement Plans

Stockpiling and/or vehicle staging areas shall be identified on the Construction/Improvement Plans and located as far as practical from existing dwellings and protected resources in the area.

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

The Project Applicant shall prepare and submit Construction/Improvement Plans, specifications and cost estimates (per the requirements of Section II of the Land Development Manual [LDM] that are in effect at the time of submittal) to the ESD for review and approval. The plans shall show all conditions for the Project as well as pertinent topographical features both on- and off-site. All existing and proposed utilities and easements, on-site and adjacent to the Project, which may be affected by planned construction, shall be shown on the plans. Landscaping and irrigation facilities within the public right-of-way (or public easements), or landscaping within sight distance areas at intersections, shall be included in the Construction/Improvement Plans. If the Design/Site Review process and/or DRC review is required as a condition of approval for the Project, said review process shall be completed prior to submittal of Construction/Improvement Plans. Record drawings shall be prepared and signed by a California Registered Civil Engineer and shall be submitted to the ESD prior to acceptance by the County of site improvements. Conceptual landscape plans submitted prior to Project approval may require modification during the Construction/Improvement Plan process to resolve issues of drainage and traffic safety.

58. Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? (CEQA VIc)

Standard of Significance: The location of new structures of facilities within areas subject to unstable soil conditions resulting from grading, excavation or fill constitutes a significant impact.

Question 56 analyzes potential for landslides, lateral spreading and liquefaction and determines the level of impact to be less than significant after mitigation.

The Land Capability Verification and Report (CardnoEntrix 2012) and Tahoe Basin Soil Survey (NRCS 2007) identify no areas of unstable soil conditions that are susceptible to collapse or subsidence. Standard facility features and construction controls such as selective site grading and revegetation of disturbed areas are part of the Project for stabilization of disturbed soils and cut and fill slopes created by the shared-use trail. The Project proposal minimizes grades and cut and fills slopes, as discussed in Section 2.6.2 of the IS/IEC.

As discussed below in relation to Question 61, the Project avoids significant encroachment in mapped areas of LCD 1b. TRPA identifies these land capability districts as sensitive to disturbance. The Project includes provisions for short-term and long-term stabilization that recognize this sensitivity including:

construction controls to limit disturbed soil erosion, use of retaining walls to limit site grading, and a revegetation planting plan suited to site specific soil type and condition.

Environmental Analysis*: Less than Significant Impact after Mitigation*.

Required Mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-2. Standard Engineering Practices for Seismic Coefficients

59. Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? (CEQA VId)

Standard of Significance: Significant impacts result if the Project locates facilities within areas of moderate to high soil risk potential identified by geotechnical assessments, of unstable soils, or of expansive or corrosive soils without appropriate geotechnical and engineering measures.

Figure 20 illustrates the soil map units and Table 18 details the characteristics of the soil map units found within the project area. Soil map units within the project area are not considered expansive. The shrink-swell potential is Low (see Table 18). Standard engineering practices for corrosive exist that will be integrated into the final Project proposal should these soil properties be encountered during final geotechnical explorations. Implementation of mitigation measure GEO- 11 reduces potential impacts to a level of less than significant through installation of trail materials appropriate for the soil conditions.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required mitigation:

GEO-11. Standard Engineering Practices for Corrosive Soils

Some soil map units within the project area may be moderately corrosive to steel. Project facilities and structures constructed in areas of corrosive soils utilize corrosive resistant materials and employ facility features and construction controls to protect buried structures.

60. Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (CEQA VIe)

Standard of Significance: Development of septic systems or alternative wastewater disposal systems in areas of soils that are inadequate of support such a use results in a significant impact.

The Project proposes no septic tanks or alternative wastewater disposal systems, and therefore, creates no impact to this resource.

Environmental Analysis: *No Impact.*

Required mitigation: **None.**

61. Would the Project result in compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)? (TRPA 1a)

No. Standard of Significance: Project proposals that do not comply with provisions of TRPA revised Code Section 30.4 for maximum coverage (note: maximum land coverage for linear public facilities equals the minimum amount necessary to achieve the public purpose), revised Section 30.5 for additional coverage in low capability lands, or revised Section 30.6 for existing excess coverage create a significant impact.

TRPA revised Code Chapter 30 contains the criteria pertinent to land coverage for the project area. The following analysis evaluates Project proposals in relation to: 1) existing land coverage and allowable base limits, and 2) the effects of additional land coverage in both high and low land capability districts. The Project proposal includes additional land coverage from a bridge span in SEZs (LCD 1b) (Question 30), but does not affect floodplains (Question 89). These analyses are not repeated in this section.

The Project is a linear public facility and is thus not subject to the excess land coverage mitigation program in revised Code Section 30.6. TRPA revised Code Section 30.4 states the maximum land coverage (i.e., allowable base land coverage plus transferred land coverage) for linear public facilities is limited to the minimum amount needed to achieve their public purpose.

In instances where proposed land coverage exceeds the TRPA allowable base land coverage, land coverage must be relocated from other portions of the project area in conformance with TRPA revised Code Section 30.6. If relocation of land coverage within the project area cannot fully offset the proposed land coverage, then land coverage must be transferred into the project area following the process outlined in TRPA revised Code Section 30.4. Subsection 30.4.2 lists the findings relevant to transfer land coverage for a linear public facility. The project area contains enough base allowable land coverage to construct the Project and therefore requires no land coverage transfer. The project area contains LCDs 1b, 4 and 6.

Table 19 provides the land coverage calculations upon which evaluation of the land capability limitations rest. Table 19 provides data segregated by LCD and includes total project area and allowable base land coverage, verified existing land coverage, new land coverage, and shared-use trail land coverage aligning with existing verified land coverage. In addition, the evaluation estimates land disturbance to measure and minimize temporary effects during construction, expressed as total disturbance. The calculations in Table 19 recognize that permanent disturbance exists along the edges of many paved trails. This analysis assumes the entire two-foot wide clear zones on either side of the shared-use trail's asphalt concrete sections could become soft coverage and represents the worst-case scenario. Clear zone vegetation in many locations will persist and reduce the impact reported here, substantially in some cases. However, to simplify monitoring and compliance assessment, this analysis includes the entire clear zone area as permanent land coverage in the Table 19 calculations.

Existing Verified Land Coverage. Appendix J presents detailed land coverage calculation tables that support the following analysis and disclose the verified existing land coverage and allowable base land coverage for the project area. Revised Code Section 30.4 outlines the calculations of allowable base land coverage. The existing verified land coverage associated with high capability LCDs 4 and 6 (0 and 54,372 square feet, respectively) does not exceed TRPA base allowable land coverage (248,208 and 2,980,036 square feet, respectively). Verified existing land coverage in LCD 1b (375 square feet) does not exceed TRPA base allowable land coverage (915 square feet).

Table 19

TRPA Land Coverage Characteristics

Land Capability District (LCD)	Percent Allowable Land Coverage	Project Area (sf)	Allowable Land Coverage (sf)	Verified Existing Land Coverage (sf)	New Land Coverage - Paved (sf)	New Land Coverage – Clear Zones (sf)	Total Land Coverage Existing and New, Including Clear Zones (sf)	Restoration Requirements (sf) **
1b	1%	91,441	915	375	286	0	661	429
4	20%	1,281,719	249,208	0	24	80	104	0
6	30%	10,086,325	2,979,036	53,997	117,422	47,878	219,297	0
Totals		**11,276,603**	**3,229,159**	**54,372**	**117,732**	**47,958**	**220,062**	**429**

Source: TRPA land capability verifications, Project Coverage Calculations in Appendix J, HBA 2012

* The calculation of new trail disturbance recognizes permanent disturbance exists along the edges of many paved trails. Therefore, the analysis assumes the entire two-foot wide clear zones will become soft coverage and represents the worst-case assumption. Clear zone revegetation in many locations will persist and reduce the impact reported here, substantially in some cases.

** Restoration requirements calculated for LCD 1b as follows: New Land Coverage + New Disturbance * 1.5 - Existing On-site Land Coverage Removed.

Additional Land Coverage in LCDs 4, 5, 6 and 7. The Project proposal maximizes the location of the shared-use trail in higher capability LCDs and increases land coverage in LCDs 4 and 6. Table 19 calculates the effects of new trail construction, in some cases over existing verified land coverage. Approximately nine percent of the 2.2-mile long shared-use trail is located over existing verified land coverage in LCDs 4 and 6, while the remainder, approximately 91 percent, creates new permanent land coverage in LCDs 4 and 6. The new permanent land coverage does not cause exceedance of TRPA base allowable land coverage in LCD 4 or 6 and does not create a significant impact, as defined by TRPA revised Code Subsection 30.4. Relocation of land coverage within the project area and transfer of land coverage into the project area are unnecessary.

Additional Land Coverage in LCD 1b. The Project encroaches into low land capability district 1b at Dollar Creek where no alternative to crossing the Dollar SEZ is available or feasible. Encroachment (i.e., new land coverage and disturbance) at the creek crossing is 286 square feet. TRPA Code generally prohibits new land coverage in LCD 1b except in limited situations when applicable findings can be met and offsetting restoration provided. As described below, the Project must meet certain findings to allow for this land coverage exception by both Lahontan and TRPA for public service projects.

Exceptions to Prohibition of Land Coverage in LCDs 1b (SEZ). TRPA revised Code Subsection 30.5.2.C requires the following findings for public service projects:

1. *The project is a necessary for public health, safety or environmental protection.*

The Project is a necessary to protect public health and safety by: 1) providing an AASHTO Class I and ADA certified shared-use trail as an alternative to existing roadways and Class II bike lanes; and 2) providing an essential link in the non-auto public transportation network capable of providing access for the broadest spectrum and diversity of user groups. The Project provides environmental protection by: 1) reducing use of private automobiles and improving related air quality; 2) consolidating public access on a protected surface trail through sensitive lands, reducing erosion associated with unpaved, unpaved trails; and 3) constructing asphalt concrete pavement over permeable fill/vented trail in some locations to protect surface and subsurface hydrologic connections. TRPA recognized these facility features when incorporating the Project in elements of the Regional Plan. Specifically related to public service projects that provide for essential public transportation services, TRPA incorporates the Project: as EIP project 761; on the TRPA Air Quality Transportation Program list; and in the Lake Tahoe RTP (TMPO 2008); Lake Tahoe Regional BPMP (TMPO 2010); and TRPA EIP, Planning Horizon 2008-2018 (TRPA 2009).

2. *There is no reasonable alternative, including relocation, or for LCD 1b a bridge span or relocation, which avoids or reduces the extent of encroachment in LCD 1b;*

The determination of reasonable alignment alternatives considers technical feasibility, economic feasibility, existing land use patterns, and the regulations and requirements of lead agencies in concert with the stated objectives and purpose and need of the Project. Throughout design, project team members considered segment alignments to avoid low land capability districts to the extent possible. Alternative alignments considered demonstrated that some did not produce less environmental disturbance and others failed to satisfy project objectives or encountered other obstacles to implementation. Connecting developed neighborhoods in Lake Tahoe requires crossing the landscape in a mountainous area; no reasonable alternative exists to these crossings. The bridge span across Dollar Creek minimizes disturbance in the SEZ by confining users to the shared-use trail surface particularly during wet conditions, accommodating seasonal surface flows and high groundwater, and allowing for some vegetative cover under boardwalks. The analysis concludes that no alignment alternative exists within the project area that completely avoids encroachment in LCD 1b and also meets the project objectives and purpose.

Additionally, the Project constructs a public facility and as a result, user safety is paramount. Compliance with ADA, Caltrans and AASHTO Class I standards is necessary to meet safety and access needs and places constraints on design elements such as minimum trail widths and grade. Reduction in conflicts associated with street and driveway crossings is also necessary to create a safe public facility. Design constraints can result in location constraints. Some alternative routes described in Table 2 encountered excessive grades or unsafe street crossing locations. Other alternative development considerations included existing developed land uses and land ownership patterns. The design team rejected detailed consideration of alternative routes that encountered substantial private property requiring easement acquisitions.

The overall selection of reasonable segment alignments considered technical feasibility, environmental assessment, existing land use patterns and the regulations and requirements of permitting agencies in concert with the stated project objectives and purpose.

The Project proposal avoids physical ground disturbance in LCD 1b through a bridge span at Dollar Creek, as described in more detail for Question 30.

3. *The impacts of the land coverage and disturbance are fully mitigated in the manner set forth in Subparagraph 30.5.1.B.5, with the exception that the restoration requirement in such subsection shall apply exclusively to stream environment zone lands and shall include coverage and disturbance within the permitted Bailey coefficients.*

Construction of the Project requires 286 square feet of new encroachment in sensitive LCDs 1b. To avoid significant impacts from permanent encroachment, revised Code Subsection 30.5.3 requires application of BMPs and additional land coverage mitigated with restoration in LCD 1b at a restoration/disturbance ratio of 1.5:1. The Project proposes use of both temporary and permanent BMPs to offset the new encroachment, including a bridge span to avoid fill within the Dollar Creek channel and SEZ.

Chapter 2 describes Project provisions for temporary BMPs to reduce construction-related. Appendix E includes provisions for site protection and revegetation and restoration related to temporary disturbance, including: limiting overall encroachment with use of project fencing and avoidance of SEZ vegetation. Permanent BMPs for erosion and sediment control include slope stabilization, revegetation, bridge span, and drainage controls. See evaluation presented for Question 57 for more description. That evaluation concludes Project stabilization and revegetation proposals avoid impacts to soils related to additional land coverage.

To meet the restoration requirement for permanent encroachment in low capability lands, the Project will remove and restore 429 square feet of verified existing land coverage related to existing, on-site unpaved trails. Evaluation for Question 30 in Section 3.2.4, Biological Resources, describes the effectiveness of this restoration for encroachment in LCD 1b and presents the Lahontan Basin Plan findings.

Sufficient on-site restoration opportunities exist within each LCD to meet the mitigation responsibilities. The Project proposal, including the provisions for BMPs and on-site restoration, meets the findings necessary to avoid significant impact from additional encroachment in low capability lands.

Additional coverage in LCD 1b must also meet Lahontan Basin Plan requirements. Question 30 presents the evaluation based on these criteria.

<u>Relocation of Existing Land Coverage within the Project Area.</u> The Project proposal requires no relocation of existing verified land coverage within the project area to accommodate new land coverage created by the shared-use trail, with the exception of 286 square feet of new land coverage associated with the bridge span across Dollar Creek. The Project relocates existing verified land coverage within the

project area to accommodate the new land coverage created by the shared-use trail in LCD 1b. TRPA revised Code Subsection 30.4.5 requires that land coverage relocation within the same project area meet the following findings:

A. The relocation is to an equal or superior portion of the parcel or project area, as determined by reference to the following factors:

(1) Whether the area of relocation already has been disturbed;

The project area is currently disturbed by existing uses, including unpaved roadways and trails. Land coverage relocation is proposed in LCD 1b to offset new land coverage of 286 square feet associated with the bridge span crossing the Dollar Creek channel and SEZ. The shared-use trail alignment follows existing disturbance where the design can do so and still achieve project objectives, including compliance with allowable trail grades for ADA.

(2) The slope of and natural vegetation on the area of relocation;

Slope is a factor of land capability. As such land coverage relocated in conformance with TRPA standards requiring relocation from equal or lower capability LCDs to higher ones generally avoids greater impacts related to slope. Native vegetation within the project area is variable, yet the vegetation community types most sensitive to disturbance exist in LCD 1b lands. The land coverage to be relocated at the Dollar Creek bridge span necessitates removal of existing unpaved trails from other project area SEZs with closely related vegetation communities. It is reasonable to conclude that future trail design development can demonstrate relocation of land coverage from an area of sensitive natural vegetation to an area of equally or less sensitive natural vegetation, given that the bridge span is considered to be land coverage while avoiding removal of SEZ vegetation.

(3) The fragility of the soil on the area of relocation;

Land capability designation generally represents soil fragility; soils more sensitive to disturbance are grouped in lower capability LCDs. Because land coverage will be relocated from one LCD 1b area to another LCD 1b area, an equal or superior relationship to fragile soils is expected.

(4) Whether the area of relocation appropriately fits the scheme of use of the property;

Section 3.2.10, Land Use and Planning, concludes that the Project appropriately fits the scheme of use of the project area. Construction of trails is a permissible use throughout the project area, continuing similar informal recreation and access uses found in the project area under existing conditions. The relocated land coverage comes from the elimination of existing land uses (i.e., existing unpaved trail), which represent uses that are similar to the Project.

(5) *The relocation does not further encroach into a stream environment zone, backshore, or the setbacks established in the Code for the protection of stream environment zones or backshore;*

The relocation minimizes encroachment into a SEZ and the setbacks established in the TRPA Code for the protection of SEZs to the greatest extent feasible by using a bridge to span the SEZ at the Dollar Creek crossing. The project area contains no backshore.

(6) The project otherwise complies with the land coverage mitigation program set forth in Section 30.6;

The Project is a linear public facility and is thus not subject to the excess land coverage mitigation program set forth in TRPA revised Code Section 30.6. However, the project does exceed base allowable land coverage limits.

B. The area from which the land coverage was removed for relocation is restored in accordance with Subsection 30.5.3.

The Project relocates and restores LCD 1b land coverage in accordance with TRPA revised Code Subsection 30.5.3. Section 2.6.3 of the IS/IEC summaries restoration and revegetation strategies while Appendix E provides additional details. The Project will identify and return existing land coverage to more naturally functioning conditions. The County will monitor and maintain these areas for vegetation cover.

C. The relocation is not to Land Capability Districts 1a, 1b, 1c, 2 or 3, from any higher numbered land capability district.

The project area contains adequate verified existing land coverage to achieve relocation from LCD 1b to LCD 1b. If land coverage in the project area cannot be restored because of existing use patterns, LCD 1b land coverage restoration will be conducted offsite and transferred into the project area. The Project will relocate 429 square feet to meet the 1.5:1 offset described in finding 30.4.5.D.2 below.

D. If the relocation is from one portion of a stream environment zone to another portion, there is a net environmental benefit to the stream environment zone. "Net environmental benefit to a stream environment zone" is defined as an improvement in the functioning of the stream environment zone and includes, but is not limited to:

1. *Relocation of coverage from a less disturbed area to a more disturbed area or to an area further away from the stream channel or water body, as applicable;*

   The project area is currently disturbed by existing uses, including unpaved roadways and trails. Land coverage relocation is proposed in LCD 1b to offset new land coverage of 286 square feet associated with the bridge span crossing the Dollar Creek channel and SEZ. It is reasonable to conclude that the relocation of LCD 1b land coverage will result in a net environmental benefit given that the bridge span is considered to be land coverage while ground disturbance and removal of vegetation within the delineated SEZ.

2. *Retirement of land coverage in the affected stream environment zone in the amount of 1.5:1 of the amount of land coverage being relocated within a stream environment zone; or*

   Land coverage restoration amounts proposed by the project demonstrate compliance with the requirements of restoration of 1.5 square feet of SEZ for every square foot of new encroachment.

3. *For projects involving the relocation of more than 1,000 square feet of land coverage within a stream environment zone, a finding, based on a report prepared by a qualified professional, that the relocation will improve the functioning of the stream environment zone and will not negatively affect the quality of existing habitats, considering factors such as, but not limited to, soil function, hydrologic function, vegetation, and wildlife habitat.*

   The Project involves relocation of less than 1,000 square feet of LCD 1b land coverage.

Transfer Existing Land Coverage. For public service projects, off-site land coverage transfer can meet the land coverage needs when insufficient on-site land coverage is available within the project area. The Project proposal is to restore LDC 1b land coverage within the project area for relocation. If onsite land coverage restoration is not possible, transfer from publicly owned offsite lands is used.

The Project meets the findings necessary to demonstrate compliance with TRPA land capability system and avoids significant impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

62. Will the Project result in a change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions? (TRPA 1b)

No. Standard of Significance: Changes in topographic features of the project area that are inconsistent with the surrounding conditions results in a significant impact to topography or ground surface relief features.

Field evaluations identify no unique geologic or physical features within the project area that could be destroyed, covered or modified.

The Project proposal complies with the TPRA Code Site Development Provisions and Grading and Construction Provisions (TMPO 2006), creates no impact to native geologic substructures, and minimizes changes in topography. The proposal locates the shared-use trail in areas of appropriate slope, but includes short portions of trail grades over 5 percent. Cut and fill slopes along the shared-use trail alignment do not exceed 5 feet in depth below existing grades, as illustrated in Appendix C.

Environmental Analysis: *Less than Significant Impact.*

Required mitigation: **None.**

63. Will the Project result in unstable soil conditions during or after completion of the proposal? (TRPA 1c)

No, with mitigation. Standard of Significance: Significant impacts result from non-compliance with TRPA revised Code Chapters 30, 33 and 60, the 208 Plan and the Lahontan Basin Plan (Chapter 5), which require the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

See analysis for Question 57, which addresses CEQA checklist item VIb and concludes the level of impact to soils to be less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required mitigation (See Question 57 for description):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

64. Will the Project result in changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet? (TRPA 1d)

No. Standard of Significance: TRPA revised Code Subsection 33.3.6 prohibits excavation in excess of 5 feet in depth or where there exists a reasonable possibility of interference or interception of a water table except under defined and permitted conditions. If groundwater interception or interference will occur as demonstrated by a soils hydrologic report, excavations can be made and significant impacts avoided through inclusion of facility measures to protect groundwater flows to avoid adverse impacts to SEZ vegetation, if any would be affected, and to prevent groundwater or subsurface water from leaving the project area as surface flow.

Preliminary field evaluations identified no severe soil constraints that preclude grading and construction activities with the exception of areas of potential shallow groundwater along Dollar Creek and the northern SEZ area depicted on Plan Sheet C11 in Appendix C. The Project proposal addresses these geotechnical constraints by placing asphalt concrete on permeable fill/vented trail upgradient of the northern SEZ area and a bridge span over Dollar Creek channel and SEZ.

The total area of disturbance is estimated at 6.4 acres, including the shared-use trail corridor (surface, clear zones and cut and fill slopes), trailhead parking and access road, temporary access roads, staging areas and hammerhead turnarounds. Table 20 outlines the estimates for excavation, grading and fill volumes for the Project.

Table 20

Excavation, Grading and Fill Volumes in Cubic Yards

Cut volume	Fill Volume	Net Cut
7,550 CY	1,725 CY	5,825 CY

Source: NCE 2012; Calculations as based on Plan sheets in Appendix C

The Project avoids cut slopes in SEZ areas. Construction of the Project requires little to no importation of fill materials, as the proposal utilizes materials from cut areas within the project area, with transportation of excess cut materials off-site to a TRPA approved disposal site to be identified during Project permitting. Because grading occurs throughout the construction period of a linear project and not all at once, approximately two to three truckloads (20 cubic yard capacity) of material would be hauled off-site daily, if the shared-use trail is completed within one construction period spanning May 1 through October 15. Question 142 discusses the effects to transportation and circulation from transport of excess cut materials off-site. The exception is permeable fill to underlay asphalt concrete sections in areas with potentially high water tables during parts of the year, which requires specific compositions of engineered soils.

TRPA prohibits excavations deeper than five feet because of the potential for groundwater interception or interference, except under defined and permitted conditions. The Project avoids cuts that exceed five (5) feet. Compliance with TRPA revised Code Subsection 33.3.6 reduces the potential impacts from excavations to a level of less than significant through conformance with codified regulations.

Environmental Analysis: *Less than Significant Impact.*

Required mitigation: **None**.

65. Will the Project result in the continuation of or increase in wind or water erosion of soils, either on or off the site? (TRPA 1e)

No, with mitigation. Standard of Significance: A significant impact occurs if the Project causes a continuation of or increase in wind erosion or water erosion of soils, either on or off-site, creating non-compliance with TRPA Code Chapters 30, 33 and 60, the 208 Plan and the Lahontan Basin Plan (Chapter 5), which require the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

The Project complies with applicable regulations and permitting requirements for control of erosion on or off-site and the protection of topsoil to reduce temporary construction impacts and long-term operational impacts to project area soils to a level of less than significant.

See analysis for Question 57, which addresses CEQA checklist item VIb and concludes potential impacts to soils to be less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after mitigation.*

Required mitigation (See Question 57 for description):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

66. Will the Project result in changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake? (TRPA 1f)

No. Standard of Significance: Effects that modify the channel of a river or stream or the bed of a lake create a significant impact.

The project area does not include shorezone area. The Project proposal avoids impacts, or likely encroachments to Dollar Creek channel below its 100-year floodplain at the bridge span, locates the shared-use trail and bridge below Dollar Reservoir, and therefore, creates less than significant impacts to stream channels and lakebeds.

Environmental Analysis: *Less than Significant Impact.*

Required mitigation: **None.**

67. Will the Project result in exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mudslides, ground failure, or similar hazards? (TRPA 1g)

No, with mitigation. Standard of Significance: The location of facilities within an Alquist-Priolo earthquake fault zone or known active fault zone or the location of facilities within areas of unstable soil without appropriate design features or construction controls constitutes a significant impact.

See analysis for Question 56, which addresses CEQA checklist item VIa and concludes potential impacts from hazardous conditions to be less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required mitigation (See Question 56i for description):

GEO-1. Submit Final Geotechnical Report

GEO-2. Standard Engineering Practices for Seismic Coefficients

3.2.7 Greenhouse Gas Emissions

This section presents the analyses for potential impacts to greenhouse gas (GHG) emissions. Table 21 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 21

Greenhouse Gas Emissions

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
68. Greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (CEQA VIIa)			X	
69. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (CEQA VIIb)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
Same as Question 27: Will the Project significantly alter climate, air movement, moisture, or temperature? (TRPA 2d)				X

3.2.7.1 Environmental Setting

Global climate change is caused in large part by anthropogenic (man-made) emissions of GHGs released into the atmosphere through the combustion of fossil fuels and by other activities that affect the global GHG budget, such as deforestation and land-use change. According to the California Energy Commission (CEC), GHG emissions in California are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors as well as natural processes (CEC 2006).

GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which could have otherwise escaped to space. Prominent GHGs contributing to this process include water vapor, CO_2, N_2O, CH_4, ozone, certain HFCs and PFCs, and SF_6. This phenomenon, known as the "greenhouse effect," keeps the Earth's atmosphere near the surface warmer than it would otherwise be and allows for successful habitation by humans and other forms of life. The combustion of fossil fuels releases carbon that has been stored underground into the active carbon cycle, thus increasing

concentrations of GHGs in the atmosphere. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and to contribute to what is termed "global warming," a trend of unnatural warming of the Earth's natural climate. Higher concentrations of these gases lead to more absorption of radiation and warm the lower atmosphere further, thereby increasing evaporation rates and temperatures near the surface.

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and TACs, which are primarily pollutants of regional and local concern. Because GHG emissions have long atmospheric lifetimes, GHGs are effectively well mixed globally and are expected to persist in the atmosphere for time periods of several orders of magnitude longer than criteria pollutants such as ozone. Given their long atmospheric lifetimes, GHG emission reduction strategies can be effectively undertaken on a global scale whereby the mitigation of local GHG emissions can be offset by distant GHG reduction activities

The CARB compiled a GHG inventory of California's 2006 GHG emissions. Their report states that 1990 emissions amounted to 433.3 million metric tons of CO_2e, while 2006 emissions levels rose to 483.9 million metric tons of CO_2e (CARB 2009). Based on California's 2006 population of 37,114,598, this amounts to approximately 13 metric tons of CO_2e per person (State of California, Department of Finance 2008). CO_2 emissions accounted for 89% of the state's 2006 inventory, followed by CH_4 (5 percent), N_2O (3 percent), and other gases included HGWPGs (3%) (CARB 2009). Table 22 summarizes statewide GHG emissions by sector, as defined in the CARB report.

Table 22

Statewide Greenhouse Gas Emissions from the 2006 CARB Inventory

Sector	CO_2e (million metric tons)
Transportation	188.721
Electricity Generation	106.458
Industry	101.619
Agriculture and Forestry	29.034
Residential	29.034
Commercial	14.517
Other	14.517
Total	483.9

Source: Adapted from CARB 2009

Notes: Emissions inventory includes estimates for CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.

3.2.7.2 Environmental Analysis and Mitigation Measures

68. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (CEQA VIIa)

Standard of Significance: There are no numeric local, state or federal significance thresholds established for GHG impacts. This analysis assesses construction and long-term operational emissions as a percent of existing emissions.

Project construction produces direct emissions. GHGs associated with construction were modeled with CalEEMod, as detailed in Appendix G. Construction equipment, haul trucks, and worker vehicles generate GHGs. Model results estimate a maximum annual GHGs of approximately 477 metric tons of CO2e emitted during the year of construction or about 5,258 pounds (2.39 metric tons) per day. This assumes a construction completion rate of about 100 linear feet of trail per day during the summer construction season for approximately 200 working days. Construction phase emissions cease at the completion of construction. The CO_2 emission estimate for construction activity represents less than 0.00007 percent of the California total, which is a negligible amount.

As recommended by the PCAPCD (PCAPCD 2012) for long-term operations, the BAAQMD derived threshold of 1,100 metric tons per year CO2e from sources other than permitted stationary sources (BAAQMD 2011) was applied to this Project. As shown in Appendix G, GHG emissions generated by on-road mobile sources associated with trailhead parking equate to approximately 21 metric tons of CO2 per year. Therefore, project operations will not exceed the selected GHG threshold and are less than significant.

The Project includes no activities or facilities that generate heat or moisture.

Question 41 addresses tree removal as an effect to habitat alterations, concluding that tree removal within the project area creates less than signficant impact to habitat categorization through implementation of tree protection and removal measures. The removal of select trees along the shared-use trail does not create reductions in forest canopy sufficient to increase local solar gain, raise temperatures or create microclimate changes.

Development projects often produce direct and long-term GHG emissions from long-term operations. The shared-use trail, however, promotes a long-term shift in transportation mode from autos to non-motorized users. While transportation modeling indicates that VMTs will increase slightly as a result of providing the optional trailhead parking facility, the anticipated increase is very minor and over time should be reduced as shared-use trail networks are expanded. Traffic analysis predicts an increase in VMT of 117 vehicle-miles per day. To put this in context, the most recent estimate of VMT over the course of a summer day throughout the Tahoe Basin is 1,977,794 VMT (TRPA 2010). Comparing the two figures, the Project may increase basin-wide VMT by 0.006 percent. Therefore, the operational phase of the Project results in less than significant impacts to long-term vehicle-related GHG emissions and global warming.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

69. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (CEQA VIIb)

Standard of Significance. Currently, neither the TRPA, TMPO nor the PCAPCD maintains local or regional plans, policies or regulations for the purpose of reducing the emissions of GHGs. Therefore, evaluation of this effect relies on general compliance with the 2008 CARB Scoping Plan strategies to achieve GHG emissions reduction goal as directed by the California Global Warming Solutions Act of 2006 (AB 32).

AB 32 requires CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. The 2008 CARB Scoping Plan adopted by CARB contains eight key strategies to achieve its GHG emissions reduction goal. The Scoping Plan strategy relevant to the Project is implementation of SB 375 (Steinberg), which provides for a new planning process to coordinate land use planning and regional transportation plans and funding priorities to meet the GHG reduction goals. SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations (MPOs), to incorporate a "sustainable communities strategy" in their regional transportation plans that will achieve GHG emission reduction targets set by CARB. The Lake Tahoe RTP (i.e., Mobility 2030, TRPA 2008) includes as a foundational element goals and policies that create sustainable communities by encouraging land use changes and improvements to non-auto transportation systems such as shared-use trails.

Based on the negligible increase in VMT and GHGs resulting from long-term operations, the Project creates no conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Implementation of the Project involves construction of a shared-use trail that has been designed to increase bicycle and pedestrian use in the area. Consequently, the Project has less than significant impacts on GHG emissions and provides for long-term benefit to air quality/climate change conditions.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

Refer to Question 27. Will the Project significantly alter climate, air movement, moisture, or temperature? (TRPA 2d)

No. See analysis for Question 27, which addresses TRPA checklist item 2d and concludes the level of impact to CO_2 or methane emissions and the concentration of tree removal are less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.8 Hazards and Hazardous Materials (CEQA) and Risk of Upset and Human Health (TRPA)

This section presents the analyses for potential impacts to hazards and hazardous materials and risk of upset and human health. Table 23 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 23

Hazards and Hazardous Materials and Risk of Upset and Human Health

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
70. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (CEQA VIIIa)		X		
71. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (CEQA VIIIb)		X		
72. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (CEQA VIIIc)				X
73. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (CEQA VIIId)				X

74. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? (CEQA VIIIe)				X
75. For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the project area? (CEQA VIIIf)				X
76. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (CEQA VIIIg)			X	
77. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (CEQA VIIIh)		X		
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
78. Involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions? (TRPA 10a)		X		
79. Involve possible interference with an emergency evacuation plan? (TRPA 10b)				X
80. Creation of any health hazard or potential health hazard (excluding mental health)? (TRPA 17a)		X		
81. Exposure of people to potential health hazards? (TRPA 17b)		X		

3.2.8.1 Environmental Setting

Wildfire. Dry summers, steep topography, and forests with high fuel loads create an annual wildfire hazard in the project area. The project area is situated within developed and wildland-urban interface (WUI) areas. WUI areas are locations in which developed areas are adjacent to areas of natural vegetation capable of carrying a wildfire. Such areas can also be defined as those areas where houses and wildland vegetation coincide. The wildfire suppression strategy in the project area, defined in the *Lake Tahoe Basin Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy- Draft 10 Year Plan* (USDA Forest Service et al, 2007) and *Community Wildfire Protection Plan for the California Portion of the Lake Tahoe Basin* (C.G. Celio and Sons Co. et. al. 2004), call for suppression of fires due to the WUI setting of the basin and proximity to homes and other structures. Land management agencies in the Lake Tahoe Basin are cooperating to reduce hazardous fuel levels in the project area and vicinity through forest stand thinning, understory burning, and other strategies. Roadways and trails in the project area create fire protection access and fuel breaks during wildfire events.

Fire protection services in the project area and vicinity are provided primarily the North Tahoe Fire Protection District (NTFPD). Depending on the initial location of the fire and mutual aid agreements, wildfire suppression in the project area or vicinity is also provided by Calfire or the LTBMU. A MOU between these agencies provides mutual aid and assistance to suppress wildfires and protect structures. Initial wildfire suppression responsibilities are divided into three categories based on land ownership or MOUs: Local Responsibility Areas (LRAs) include the County areas, State Responsibility Areas (SRAs) include State lands, and Federal Responsibility Areas (FRAs) include LTBMU lands.

The NTFDP implements the Community Wildfire Protection Plans (Celio and Sons et al 2004) and provides primary response for emergency services through six (6) fire stations with 65 uniformed and support personnel to nearly 20,000 people in a 31 square mile area on the north and west shores of Lake Tahoe, responding to approximately 2,000 alarms per year. A large number of tourists are drawn to the area, which results in population changes on a seasonal basis. Personnel respond to emergencies in rural, suburban and urban settings and firefighters are proficient in wildland fire fighting, structural fire fighting, back country/technical rescue, swift water rescue, hazardous materials mitigation, and emergency medical services. There are five NTFPD fire stations in the project area vicinity with three in Tahoe City, California (Stations 51, 54 and 56), one in Carnelian Bay, California (Station 55) and one in Kings Beach, California (Station 52) (http://www.ntfire.net, February 2, 2012).

Calfire maintains a fire station to respond to wildfires in SRAs from the Carnelian Bay Station, 240 Carnelian Bay Avenue Carnelian Bay, CA. Calfire administers the Fire and Resource Assessment Program (FRAP), which maps and describes landscapes susceptible to wildfire fire based on factors such as vegetation, climate, and topography. Much of the project area and vicinity is classified as a Very High, Fire Hazard Severity Zone (FHSZ) in areas of County, State, and federal responsibility (California Department of Forestry and Fire Protection, Forest And Resource Assessment Program 2006, 2007, 2009, 2010). Calfire prescribes vegetation and fuel clearance standards around structures under PRC §4291, and the California Building Code (CBC) prescribes standards for construction in wildland fire hazards areas to reduce the susceptibility to wildfire (http://www.fire.ca.gov, February 2, 2012).

The Conservancy's Forestry Program plans and implements fuel reduction and forestry health projects on its lands in the Lake Tahoe Basin. In urban interface lands, these projects reduce fuel loads by selectively thinning trees and removing understory.

The LTBMU also implements programs on Vegetation Management, Urban Lot Management, and Fire and Fuels Management on LTBMU lands in the project area vicinity. A goal of these programs is to reduce wildfire risks in the WUI setting by reducing fuels and creating defensible fuel profile zones with

a combination of hand and mechanical treatments and prescribed burning (LTBMU 2006a, 2006b, 2006c). LTBMU wildland fire fighting crews dispatch from the LTBMU at 35 College Drive, South Lake Tahoe.

Hazards and Hazardous Materials. The term hazardous substance refers to both hazardous materials and hazardous wastes, including explosives. A material is defined as "hazardous" if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency or if it has characteristics defined as hazardous by such an agency. The CalEPA Department of Toxic Substances Control (DTSC) defines hazardous waste, as found in the California Health and Safety Code §25141(b), as follows:

> […] its quantity, concentration, or physical, chemical, or infections characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.

The Cal-EPA and the State Board establish rules governing the use of hazardous materials and the management of hazardous waste. If a release of a hazardous substance(s) is (are) detected in the project area, the NTFPD responds to evaluate conditions and determine if additional emergency services will be required. Placer County Sheriff's Office and Placer County Office of Emergency Services (www.placer.ca.gov/Departments) CBC chapter 7A regulations don't apply.

Environmental Science Associates (ESA) conducted an Initial Site Assessment (ISA) (2012), which identifies Recognized Environmental Conditions (RECs) for the project area that may adversely affect shared-use trail construction or right-of-way acquisition, if required. The ISA conforms with the scope and limitation for the American Society for Testing and Materials (ASTM) Practice E 1527-05). Personnel conducted site reconnaissance on October 11, 2011. The project area, as undeveloped land located away from industrial or heavy commercial sites is considered to have a low risk for hazardous materials contamination. The report reveals no evidence of RECs in connection with the project area and the project area appears in no searched database lists for RECs. ASTM defines an REC as "the presence or likely presence of any hazardous substances or petroleum products on a project site under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the project site or into the ground, groundwater, or surface water of the project site. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state laws and regulations".

The environmental database resource (EDR) report did not identify the project area on any of the searched databases; however, six properties within the 1/8 mile search radius (1/4 mile total search area) were found to be listed. The Corridor Area Map in attachment C of the ISA that is attached as IS/IEC Appendix K illustrates the location of the properties. Two of these sites are Leaking Underground Storage Tanks (LUSTs) that were closed in 2001. No further action is required at those sites. The other sites are locations of underground storage tanks that are not known to have leaked and none of these listed sites are within the Project's area of potential effect (APE). Project construction or operation affected or otherwise disturb these sites.

Naturally occurring asbestos (NOA) is known to be present in Placer County. To help identify areas in the county that may contain NOA, the California Department of Conservation, California Geological Survey (CGS), has prepared a 1:100,000-scale map (Plate 1) of relative likelihood for the presence of naturally occurring asbestos in Placer County. The project area is not located near any of the areas identified as containing Ultramafic Rocks and is mapped as an Area Least Likely to Contain NOA (ESA 2012).

Mosquito/Vector Control. The climate, topography, and plant communities of the Lake Tahoe Basin provide an abundance and variety of larval mosquito habitats. The restoration of stream environment zones has created additional habitat sources. The mosquito population in the Basin is most active in the spring and early summer. Mosquitoes are potential vectors of organisms that can cause disease to pets, domestic animals, wildlife, or humans. Human diseases transmitted by mosquitoes include encephalitis, malaria, and West Nile virus. The Placer Mosquito and Vector Control District manage the risks from vectors and vector borne disease in order to protect public health and quality of life in Placer County.

Emergency Preparedness. Each county in California is responsible for preparing an emergency operations plan that describes various anticipated emergency situations and outlines the County's response to such situations. Placer County's plan, the Multi-Hazard Plan, has been approved by the State and is regularly updated. The Plan serves as the implementation program for the coordination of hazard planning and disaster response efforts in Placer County as stated in Goals 4.I and 8.C of the Placer County General Plan.

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state and local governments and private agencies. Response to hazardous materials incidents is on part of this plan. The plan is managed by the Governor's Office of Emergency Services (OES), which coordinates the responses of other agencies including the Cal-EPA, CHP, CDFG, Lahontan, County Sheriff's Department, and local police and fire departments.

3.2.8.2 Environmental Analysis and Mitigation Measures

70. Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (CEQA VIIIa)

Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

Project construction includes grading, slope stabilization, and installation of trails, bridges, transition aprons, and culverts. Hazardous materials associated with construction include diesel fuel, hydraulic fluid and asphalt concrete products and paints. The Tahoe Truckee Sierra Disposal Eastern Regional Landfill transfer station in Tahoe City, California, handles the disposal of hazardous material wastes from the project area and vicinity. Identification of staging areas and construction controls related to the use and storage of these materials is necessary to reduce potential impacts to a level of less than significant, including protection and remediation in the event of accidental spills is also addressed. These measures, further detailed at the time of final permitting, must meet federal, state, and local standards. No site conditions, particularly those related to potential staging areas off Dollar Drive, Country Club Drive and Beverly Drive present challenges to standard compliance with construction controls suitable to avoid public hazard.

Long-term shared-use trail operations include periodic maintenance of trail infrastructure. Asphalt concrete sealing and revegetation maintenance will occur as necessary and follow standard practices for materials use.

Construction of the Project will meet standards for public and environmental protection related to hazardous materials and avoids potential for significant impact through implementation of mitigation measure GEO-5.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation: (See Question 57 for description):

GEO-5. Conform to NPDES Permit Requirements

71. Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (CEQA VIIIb)

Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

The Placer County General Plan includes industrial or other land use designations that allow the handling, use, or manufacture of hazardous materials. However, only relatively small quantities of hazardous materials and hazardous wastes are generated, stored, and transported in Tahoe City, California because of limited heavy industrial land uses and lack of major interstate trucking routes. Consequently, the project area has a low risk of hazardous materials spills or incidents, as the significant portion of the shared-use trail alignment is located on disturbed but undeveloped land. Furthermore, the ISA identified no evidence of RECs in connection with the project area.

The area does have naturally occurring hazardous materials such as radon gas, which is a radioactive gas that is found in some soil types, but is often concentrated in granite and granitic soils. These types of soils are not prevalent within the project area. Radon vapors occurring in building materials, within buildings, and through indoor water systems are considered hazardous if they are allowed to concentrate to levels at 4 pico-curies per liter of air. Although radon vapors are found in some soils, they typically only become hazardous when vapors are concentrated, such as in indoor settings, and are unable to disperse into the atmosphere. The Project creates no such environment.

Trail construction involves the use of potentially hazardous materials, including but not limited to, fuels, petroleum products, and asphalt concrete. Construction personnel and people living or working near the sites could be exposed to accidental releases of these materials. To avoid and minimize potential impacts a spill response plan is necessary, which details measures to avoid and minimize the potential for accidental spills and specific response actions to be taken should an accidental spill occur. Appropriate procedures to follow in the event that contaminated soil or groundwater is encountered during construction activities is also necessary to minimize potential impacts and will be developed as part of the SWPPP required for construction permitting (Mitigation Measure GEO-5). Operation of the shared-use trail requires no use of hazardous materials.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 57 for description):

GEO-5. Conform to NPDES Permit Requirements

72. Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (CEQA VIIIc)

Standard of Significance: The transport or use of hazardous materials within one-quarter mile of a school constitutes a significant impact if the Project includes no measures ensuring public health and safety.

The North Tahoe High School (2945 Polaris Road Tahoe City, CA 96145) is just over one mile from the project area. Construction and operations activities involve no transport, consumption, remittance, disposal, or handling of hazardous substances that have potential to create a significant hazard to the public or the environment, and therefore pose a low risk of reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Some construction equipment will likely use diesel fuel, creating a short-term increase in diesel fuel usage over the active construction period. This short-term increase is not likely to contribute significantly towards hazards to the public or environment. Question 71 addresses release of hazardous materials into the environment and concludes the level of impact is less than significant through compliance with NPDES construction permit requirements. . The Project is located more than one-quarter mile from the high school and therefore poses no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

73. Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (CEQA VIIId)

Standard of Significance: Project location on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 creates a significant hazard to the public or the environment.

The ISA (Appendix K) identifies six (6) properties within the required search radius, but the listed hazardous waste facilities or contaminated sites are not reported within the project area, the Project's APE or along major transportation routes that may be used or affected during construction or operation of the Project (ESA 2012). The Project presents no impact to listed hazardous waste facilities and contaminated sites.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

74. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the project area? (CEQA VIIIe)

Standard of Significance: A significant impact results from non-compliance with an airport comprehensive land use plan or FAA Safety Regulations.

The Project is not located within the vicinity of a public-use airport and therefore has no impact on public safety in the vicinity of a public-use airport or FAA safety regulations.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

75. For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the project area? (CEQA VIIIf)

Standard of Significance: Creation of a safety hazard to people residing or working in the vicinity of a private airstrip results in a significant impact.

The Project is not located within the vicinity of a private airstrip and therefore has no impact on public safety in the vicinity of a private airstrip.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

76. Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (CEQA VIIIg)

Standard of Significance: If impediments to emergency response or evacuation routes occur or response times fall below emergency response plan standards because of Project construction or operations, a significant impact occurs.

The Project interferes with no emergency response or evacuation plans. The shared-use trail provides for a new, alternative emergency vehicle access route into wildland-urban interface (WUI) areas. WUI areas are locations in which developed areas are adjacent to areas of natural vegetation capable of carrying a wildfire.

In the event of wildfire or other significant community threat, emergency access for evacuation or fire-fighting equipment can occur along the shared-use trail. In portions of its alignment, (e.g. in the Dollar Hill and Cedar Flats neighborhoods), the shared-use trail allows an alternate route capable of improving response times or improving circulation options during evacuation. In these situations, official personnel will direct emergency use to avoid creating trail use safety concerns. Therefore, the Project produces a less than significant impact on emergency response or evacuation plan.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

77. Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (CEQA VIIIh)

Standard of Significance: Project exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands a creates significant impact.

The project area is along an existing residential setting with a number of existing unpaved access roads and trails. The Project will be integrated into existing County and State fuel reduction programs active in the area, and construction and operation of the shared-use trail won't interfere with ongoing fuel reduction

and vegetation management programs. In natural vegetation areas, construction of a shared-use trail provides for an effective fuel break by reducing the continuity of fuels. The trail may act to decrease the rate of spread of a wildfire and provide greater ability for fire fighters and safety vehicles to access a wildfire location, providing for greater opportunity for wildfire suppression. Manufacturers of systems similar to that proposed by the Project identify that bridge designs can accommodate emergency response vehicles up to 10,000 pounds.

Project operations will improve emergency vehicle access and provide for a new fuel break in WUI settings, and thereby provides enhanced ability to suppress a wildfire to result in a less than significant impact on exposure of people and structures to wildfire risks during shared-use trial operations.

The Project does not expose people or structures to a significant risk or loss due to wildfire hazards, but construction activities may increase risk of wildfire and NTFPD anticipated the need for specialized emergency medical response and rescue equipment for use on the shared-use trail system. Portions of the project area are adjacent to naturally-vegetated open space and the Project traverses WUI settings. Operation of the Project increases the number of people using the area and people are potential ignition sources for wildfire. The number of potential ignition sources, however, is generally not a determinant of wildfire occurrence. The risk of loss to wildfire is directly related to hazardous fuel accumulations near structures and the ability to access and suppress a wildfire shortly after ignition, which could increase during construction of the shared-use trail because of construction equipment, requiring mitigation to reduce potential impacts to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

HAZ-1. Fire Suppression and Management Provisions

The County shall develop fire suppression and management provisions as it completes final plans and construction specifications. These provisions shall include fire precaution, pre-suppression and suppression measures, a flow chart of actions during a fire event, and identification of points of contact and responsible personnel. Construction sites and major equipment shall be outfitted with fire protection devices and spark arrestors as appropriate. A copy of the requirements shall be maintained at the construction site and submitted to the NTFPD.

78. Will the Project involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions? (TRPA 10a)

No, with mitigation. Standard of Significance: Non-compliance with local, state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards. The Placer County General Plan sets forth the goals, policies, and implementation plans related to public safety and hazards associated with hazardous materials that are applicable to the Project. Lahontan Board Order No. R6T-2011-0101 also outlines requirements for storage and handling of hazardous substances for construction projects within the California portion of the Lake Tahoe Basin.

Questions 70 and 71 (i.e. CEQA checklist items VIIIa and VIIIb), respectively, address the transport, use or disposal and the risk of accidental release of hazardous materials and conclude the level of impact from the Project to be less than significant after mitigation. Construction of the Project involves the short-term

use and storage of hazardous materials typical of a shared-use trail construction project (e.g., asphalt concrete, fuel, and paint for striping). Materials will be used, stored, and disposed of in accordance with applicable federal, state, and local laws including Cal-OSHA, and Lahontan NPDES construction permit conditions and manufacturer's instructions. For transport to the project area, the CHP regulates transportation of hazardous materials on area roadways. Mitigation measure GEO-5 serves to meet the conditions of the NPDES construction permit and includes preparation of a site-specific spill prevention plan that addresses hazardous materials use, storage, transport, and disposal and management and containment of hazardous materials in the event of a spill. Compliance with NPDES construction permit requirements is sufficient to minimize risks associated with hazardous materials use.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (see Question 57 for description):

GEO-5. Conform to NPDES Permit Requirements

79. Will the Project involve possible interference with an emergency evacuation plan? (TRPA 10b)

No. Standard of Significance: If impediments to emergency response or evacuation routes occur or response times fall below emergency agency standards because of Project construction or operations, a significant impact occurs.

See analysis for Question 76, which addresses CEQA checklist item VIIIg and concludes that the Project has a less than significant impact on emergency response or evacuation plans.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

80. Will the Project result in creation of any health hazard or potential health hazard (excluding mental health)? (TRPA 17a)

No, with mitigation. Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

See analysis for Questions 70 and 71 concerning the Project's potential to create health hazards or increase exposures to health hazards, which addresses CEQA checklist items VIIIa and VIIIb and conclude the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 57 for description):

GEO-5. NPDES Permit Requirements

81. Will the Project result in exposure of people to potential health hazards? (TRPA 17b)

No, with mitigation. Standard of Significance: Non-compliance with state and federal handling and disposal regulations and procedures during construction of operation of the Project constitutes a

significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

See analysis for Question 72, which addresses CEQA checklist VIIIb and concludes that the Project has a less than significant impact towards exposure of people to potential health hazards related to construction and operation of the shared-use trail through implementation of mitigation measures GEO-5.

Other potential hazards relate to hazardous waste sites and disease spread from mosquitos. With no known hazardous waste sites within the project area or APE, the potential for encountering contaminated soils or hazardous wastes during construction or operation of the Project is minor. Federal and state OSHA regulations for construction workers will be followed during trail development and workers will not be subject to contaminant exposure. Mitigation measure GEO-5 requires development of appropriate procedures to follow in the event that contaminated soil or groundwater is encountered during construction activities. The Project crosses near several SEZs that include streams (i.e., Dollar Creek) and wet meadow environments that provide breeding habitats for mosquitoes. Trail construction in wet meadow and stream environments includes a bridge span across Dollar Creek channel and SEZ and asphalt concrete on permeable fill that do not affect the existing grade or hydrologic patterns below the trail. Construction and design does not interrupt flow patterns or otherwise create new standing water or saturated habitats that provide for new breeding habitats for mosquitoes nor interrupt existing vector control programs. Consequently, the Project has a less than significant impact on public health risks and hazards.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 57 for descriptions):

GEO-5. Conform to NPDES Permit Requirements

3.2.9 Hydrology and Water Quality

This section presents the analyses for potential impacts to hydrology and water quality. Table 24 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 24

Hydrology and Water Quality

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
82. Violate any water quality standards or waste discharge requirements? (CEQA IXa)		X		
83. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (CEQA IXb)		X		
84. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (CEQA IXc)			X	
85. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	

(CEQA IXd)				
86. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (CEQA IXe)			X	
87. Otherwise substantially degrade water quality? (CEQA IXf)		X		
88. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (CEQA IXg)				X
89. Place within a 100-year flood hazard area structures which would impede or redirect flood flows? (CEQA IXh)			X	
90. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (CEQA IXi)			X	
91. Inundation by seiche, tsunami, or mudflow? (CEQA IXj)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
92. Changes in currents, or the course or direction of water movements? (TRPA 3a)				X
93. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site? (TRPA 3b)				X
94. Alterations to the course or flow of 100-yearflood waters? (TRPA 3c)				X
95. Change in the amount of surface water in any water				X

body? (TRPA 3d)				
96. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? (TRPA 3e)		**X**		
97. Alteration of the direction or rate of flow of ground water? (TRPA 3f)		**X**		
98. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? (TRPA 3g)		**X**		
99. Substantial reduction in the amount of water otherwise available for public water supplies? (TRPA 3h)				**X**
100. Exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches? (TRPA 3i)				**X**
101. The potential discharge of contaminants to the groundwater or any alteration of groundwater quality? (TRPA 3j)		**X**		
102. Is the Project located within 600 feet of a drinking water source? (TRPA 3k)				**X**

3.2.9.1 Environmental Setting

Appendix L attaches the Water Quality Memorandum (WQM) prepared for the project area. The objective of this WQM report is to evaluate potential impacts of Project construction and operations on water quality. The WQM identifies direct, indirect, temporary and long-term effects on surface water and groundwater resources potentially resulting from actions of construction, operations and maintenance of the Project. The WQM describes the design elements, categories of Best Management Practices and construction approach included in the Project proposal for conformance with federal, regional, state and local regulatory requirements and when necessary, additional mitigation measures to reduce potential impacts to less than significant levels.

The WQM discloses whether project-induced effects will have a significant impact on water quality. Significance is based on whether discharges to receiving waters will contribute to exceedances of federal, State of California or Tahoe Regional Planning Agency (TRPA) water quality objectives or have an adverse impact to the beneficial uses identified by the Regional Water Quality Control Board (RWQCB).

This report describes the environmental and regulatory setting and the environmental impacts of the Project and identifies measures to minimize adverse impacts on hydrology and water quality.

Project Area Watersheds. As illustrated in Figure 1 of Appendix L, the project area traverses the Lake Forest Creek, Dollar Creek and Cedar Flats watersheds. The project area contains 0.11 acres within Lake Forest Creek watershed (TRPA Priority Watershed 4) or 0.03 percent of the watershed's 447 acres. The shared-use trail is not hydrologically connected to Lake Forest Creek. Dollar Creek, a perennial stream channel and TRPA Priority Watershed 5, drains the project area. Dollar Creek watershed drains an area of approximately 1,175 acres with approximately 217 acres of 18.5 percent of the total watershed contained within the project area (See Table 1 of Appendix L). The project area also contains approximately 41 acres of the 1,166-acre Cedar Flats drainage area, which is 3.5 percent of the total area. No perennial channel drains Cedar Flats watershed, TRPA Priority Watershed 6.

Figure 1 in Appendix L illustrates the watershed and the project area boundaries as delineated by the TRPA and defined for the Lake Tahoe Total Maximum Daily Load (TMDL) (Lahontan and NDEP 2010). The project area is not hydrologically connected to Lake Forest Creek or Cedar Flats watershed through perennial drainage channels. Surface runoff within the project area typically sheet flows and infiltrates within the undeveloped forested uplands, although some intermittent and ephemeral drainages were noted during field surveys. Dollar Creek is a perennial stream that drains the majority of the project area with flows controlled at Dollar Reservoir. Dollar Creek crosses under SR 28 and is tributary to Lake Tahoe.

Existing Surface Water Quality. Dollar Creek and Dollar Reservoir are the perennial surface water features and direct receiving waters within the project area. Intermittent and ephemeral drainages are present within the project area that convey surface runoff during the spring runoff period and extreme precipitation events, but these drainages do not discharge to receiving waters or to Lake Tahoe. Lake Tahoe is a receiving water via stream flows from Dollar Creek and groundwater recharge from lacustrine deposits. Dollar Reservoir is about one acre in size and is sited behind a 14-foot high and 400-foot long dam. The dam and reservoir do not currently serve any purpose other than providing a favorite destination for hikers and bikers (California State Parks 2005).

Artificial barriers exist on Dollar Creek near the confluence with Lake Tahoe. Consequently there is no interchange of fish and other migratory aquatic species between the lake and the creeks (California State Parks 2005).

Little surface water quality data exists for Dollar Creek, but non-point sources of stormwater runoff from residential developments, including lawns and landscaping, driveways and access roadways along with runoff from forested uplands are known to be the primary influences on surface water quality (TRPA and NDEP 2007).

Dollar Creek beneficial uses include: municipal and domestic supply; agricultural supply; groundwater recharge; water-contact recreation; non-water-contact recreation; commercial and sportfishing; cold freshwater habitat; wildlife habitat; and spawning, reproduction and development.

No portion of Dollar Creek is currently designated as impaired under Section 303(d) of the CWA; however, the stream is tributary to Lake Tahoe and addressed under the Lake Tahoe TMDL. The creek does not appear to be contaminated with heavy metals or other pollutants. Contaminants affecting the

Dollar Creek watershed could include various vehicle-related pollutants such as oil, grease and other petroleum products from roadways, located down gradient of the project area and illicit dumping, pesticides, herbicides and fertilizers from residential homes in the project area vicinity. Wastewater treatment facilities do not contribute pollutants to the watershed because all sewer and wastewater are exported out of the Lake Tahoe Basin.

SEZs and Wetlands. The USACE regulates activities in wetlands and waters of the U.S. in accordance with Section 404 of the Clean Water Act. To determine the potential for impacts to this resource, HBA performed preliminary wetland delineation in the fall of 2011 that will be finalized in Spring 2012. Appendix H, Dollar Creek Shared-Use Trail Project Natural Environment Study (NES), contains some results from the draft wetlands report; Figure 1 in this appendix locates the wetland areas identified. The delineation identified three (4) wetland types within the project area, including: other waters, emergent floodplain, montane riparian wetland and groundwater seep wetland.

Please refer to Appendix H for description of wetlands and waters of the U.S. identified within the project area. Section 3.2.4 of the IS/IEC addresses potential impacts to SEZs and wetlands, specifically Questions 30 and 31.

Surface Water Quality Objectives. Key regulatory agencies with respect to hydrology, water rights and supply, surface water quality and groundwater in the project area are listed below.

- TRPA is designated by the United States Environmental Protection Agency (USEPA), California and Nevada as the water quality planning agency in the region;
- California Department of Water Resources;
- State Water Resources Control Board (State Board);
- California Regional Water Quality Control Board – Lahontan Region;
- Placer County; and
- Placer County Flood Control and Water Conservation District.

Appendix L, Tables 2 and 3, detail the regional and state water quality objectives (WQOs) for Dollar Creek, respectively. The discharge of surface flows generated within the project area to surface waters or to stormwater runoff conveyance systems cannot cause the concentrations in Lake Tahoe, Dollar Creek, minor surface waters or minor wetlands to exceed the WQO limits listed in these tables.

3.2.9.2 Environmental Analysis and Mitigation Measures

82. Would the Project violate any water quality standards or waste discharge requirements? (CEQA IXa)

Standard of Significance: Failure to implement effective, reasonable and appropriate measures to protect water quality and/or non-compliance with WQOs, waste discharge requirements or Board Orders No R6T-2011-0019 or R6T-2005-0026 result in a significant impact to surface water quality and beneficial uses. TRPA revised Code Chapters 33 and 60 and the Lahontan Basin Plan Chapter 5 disclose the applicable codified regulations and WQOs that are presented in Tables 2 and 3 of Appendix L.

Lahontan exercises control of WQOs and water quality control measures for surface waters and groundwater governed by the Lahontan Basin Plan adopted March 31, 1995. The Lahontan Basin Plan designates beneficial uses for water bodies and establishes water quality objectives, waste discharge prohibitions, and other implementation measures to protect those beneficial uses as describe in Appendix L. TRPA revised Code Chapter 60 lists the regional WQOs.

Site disturbance, stormwater runoff, erosion and sedimentation during Project construction pose direct and indirect short-term impacts to surface water quality and beneficial uses within and downstream of the project area. Concentrated runoff from modified impervious surfaces and slopes could occur from long-term operations of the Project. Indirect impacts of atmospheric deposition of particulates could occur if disturbed areas are not revegetated or significant increased VMT occurs.

Construction of the Project potentially affects Dollar Creek. This analysis evaluates potential impacts in the context of the facility features and construction controls built into the Project proposal. The facility features and construction controls are measures incorporated into the Project proposal during planning and design that are intended to avoid, reduce and minimize potential effects to surface water quality and beneficial uses. These Project components address direct and indirect, short-term and long-term effects to surface water quality and beneficial uses from construction runoff, urban runoff and atmospheric deposition within the project area.

Short-term Construction Impacts. Construction of the Project involves land disturbance activities, such as vegetation removal, excavation and backfill, soil compaction, and stockpiling of soils. Short-term impacts to surface water quality and beneficial uses could result if precipitation events occur simultaneously with construction activities. Disturbed and compacted soils contribute to runoff and subsequently increase peak and total runoff volumes from the project area. However, containment of soil erosion and runoff on-site during construction protects the down-gradient drainage surface water quality and beneficial uses. A small potential for accidental petroleum releases from motorized equipment during construction activities exists during construction activities, which could result in temporary effects to water quality.

The Project will comply with conditions for permit coverage under Board Order No. R6T-2011-0019, the Tahoe Basin Construction General Permit. During the final stages of construction plan development, the County and its contractors prepare details and specifications that make up the TRPA ESCP and NPDES SWPPP requirements (mitigation measures GEO-3 and GEO-5, respectively). These plans address construction-related disturbance to minimize, control and infiltrate runoff. At a minimum, implementation of the ESCP and SWPPP prevents debris, soil, silt, sand, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from Project construction or operation from entering into receiving waters or their tributaries and adjacent wetlands. The SWPPP outlines erosion control measures to be taken as well as structural BMPs to control and prevent to the maximum extent practicable the discharge of pollutants to surface waters and groundwater. The SWPPP includes a plan for

responding to and managing accidental spills during construction (i.e., Emergency Response Plan) as well as overall management of the construction project such as designating areas for material storage, equipment fueling, concrete washout, and stockpiles. The County will file the permit registration documents prior to ground disturbing activities (mitigation measure GEO-4) and its contractor will install construction-related temporary BMPs according to the California Stormwater Quality Association (CASQA) and TRPA BMP handbooks (mitigation measure GEO-6).

The project area presents few construction challenges that could reduce the effectiveness of standard compliance measures in meeting discharge limitations during construction. The Project proposal locates the shared-use trail primarily on high capability land with reasonable construction access, as required by mitigation measure GEO-8 and complies with the TRPA grading period (mitigation measure GEO-7). Available staging areas provide opportunities to erect and maintain erosion controls on higher capability lands distant from streams and conveyance systems (mitigation measure GEO-9). Appendix C details temporary construction access, staging areas, and turnarounds on plan sheets.

Tree protection measures (mitigation measure SR-1) outline procedures for protection of roots and boles during construction activities. Mature tree roots play a role in slope stability and tree canopy aids in the protection of topsoil by moderating temperatures and dispersing the effects from precipitation events that could lead to erosion. A designated monitor on-site during construction activities provides professional expertise and expedited response to correct issues that could arise during construction and assures compliance with permitting conditions and fulfillment of Project commitments.

This evaluation concludes that through implementation of mitigation measures, the Project adequately avoids and minimizes potential for direct and indirect water quality degradation during construction. Water quality protection directly supports the following beneficial uses: municipal and domestic supply; agricultural supply; groundwater recharge; water-contact recreation; non-water-contact recreation; commercial and sportfishing; cold freshwater habitat; wildlife habitat; and pawning, reproduction and development. Three beneficial uses will experience short-term disruption during construction: commercial and sport fishing, water-contact recreation and non-contact water recreation. While access to recreation features in the work zone will be temporarily limited during construction, adequate public access for water contact and fishing along Dollar Creek and for recreational trail use in other areas exists adjacent or near the project area along its length. Conformance with regulations and Project permitting conditions reduces the direct and indirect short-term potential impacts to surface water quality and beneficial uses during the construction period to a level of less than significant after mitigation.

Long-term Operational Impacts. The Project, as a non-motorized route, introduces little long-term potential for runoff containing hydrocarbons, heavy metals and other chemicals or toxins associated with motorized vehicles and exhaust. The Project proposal includes no snow removal or use of deicing chemicals or sand.

Given the linear configuration of the Project, source control is more effective in preventing surface water degradation than extensive runoff collection and treatment. The Project proposal employs the following facility features and construction controls to avoid and minimize direct and indirect, long-term potential impacts to surface water quality and beneficial uses from operations and maintenance:

- Avoidance and minimization of encroachment in low capability LCDs;
- BMP retrofit of key neighborhood connector trails (includes trail corralling, trail narrowing, waterbars, boulders, native mulch, and educational signage);
- Raised asphalt concrete trail on permeable fill/vented trail design option in areas with potential for surface hydrology;
- Flexible grades to minimize disturbance;

- Bridge span at Dollar Creek;
- User management fences, bollards and/or boulders;
- Trail alignment location to reduce disturbance areas and stabilize cut and fill slopes; and
- Hydrologic source controls (i.e., clear zones); and
- On-site drainage strategies and structures (i.e., transition aprons and culverts).

To reduce potential long-term impacts to surface water quality and beneficial uses from use, operations and maintenance actions, the Project will implement post-construction stormwater management in accordance with permit R6T-2011-0019 requirements for Lahontan Notice of Termination (NOT) conformance (mitigation measure HYDRO-3) and install permanent BMPs according to the CASQA and TRPA BMP handbooks (mitigation measure HYDRO-1). For post-project BMP effectiveness and stormwater monitoring, the Project will prepare and impalement an Inspection, Operations, Maintenance and Monitoring Plan, as required by mitigation measure HYDRO-2.

The Project proposes strategies for revegetation and restoration based on the type and location of disturbance with goals of reestablishment of native hydrology and vegetation communities and implements the OMMS for identification of long-term operations and maintenance needs. The Project proposal does not include ornamental landscaping or use of fertilizer beyond the vegetation reestablishment stage. The Project proposal does include irrigation initially during the revegetation establishment. Revegetation strategies use native plants and materials. Appendix E contains the RRPs for trail removal, BMP upgrades, and disturbance areas. The RRPs include Noxious Weed and Invasive Species Plan implementation, which improves revegetation efforts by reducing the possibility for noxious weed introduction and establishment and the subsequent removal of these unwanted plan species if necessary. Implementation of the OMMS assures that the Project continues to provide for the environmental benefits articulated by the Project objectives through adequate maintenance of facilities, resource protection through education and interpretation, and adaptive management strategies. Appendix F details this strategy.

Human use of the project area will change after construction of the shared-use trail. Important considerations include; 1) some trail use, including most use during the early spring/late fall period when the SEZ and wetland areas are wet, will shift to the protected surface trail and other existing trail use will continue to be disbursed on the unpaved trails to remain; 2) the vast majority of shared-use trail users will remain on the trail until they reach their destination (TMPO 2010) greatly reducing new impacts to the unpaved trails; and 3) bridge span at Dollar Creek will minimize impacts to SEZ and potentially jurisdictional waters. The OMMS (Appendix F) employs adaptive management strategies to prevent new unpaved trails from creating impacts. These include regular monitoring to identify changing use patterns and use of increasingly restrictive measures only where necessary to prevent new disturbance.

The Project contributes towards attainment of TRPA water quality thresholds and Lahontan's water quality objectives for specific water bodies and general hydrologic areas through Project benefits such as environmental protection of air and water quality and of sensitive lands. The Project provides for an incremental step in meeting the basin-wide water quality thresholds through implementation of TRPA EIP Project 761 (Dollar Hill to North Tahoe Regional Park Trail) and installs an essential public transportation linkage identified in the Lake Tahoe RTP (TRPA/TMPO 2008), Lake Tahoe Regional BPMP (TMPO 2010) and TRPA EIP Update, Planning Horizon 2008-2018 (TRPA 2009).

TRPA revised Code Chapter 60 identifies water quality mitigation needs associated with new public projects, which can be met through the implementation of mitigation projects or the payment of a mitigation fee. The County identifies the mitigation option in the Project permit application. The direct and indirect, long-term impacts to surface water quality and beneficial uses from operation and

maintenance of the Project is less than significant based on the potential benefits to the immediate project area and contributions towards attainment of TRPA Thresholds.

Atmospheric Deposition. Atmospheric sources can contribute to surface water quality degradation, as more than half of the nitrogen loading in Lake Tahoe is delivered by air (TRPA and NDEP 2008). Several sources of airborne pollutants include motorized vehicles, dust and particulates from unvegetated slopes, and pulverized road salts and abrasives. Fugitive dust generated during Project construction could increase ambient fine particulate concentrations. Fine particulate emissions can be deposited directly in surface waters or can be transported by runoff to surface waters.

The Project will implement a Fugitive Dust Control Plan (mitigation measure AQ-1) for the control of dust during construction activities. The Project proposal minimizes long-term, potential impacts to surface water quality and beneficial from atmospheric deposition through revegetation of disturbed areas and revegetation and management of trail clear zones.

The Project will offer an alternative to use of private automobiles for travel. Section 3.2.16, Traffic and Circulation, reports nominal VMT increases (e.g., Basinwide VMT increase of 0.006%) after Project construction with no measurable change related to emissions. Revegetation of disturbed areas to cover bare soils, stabilize slopes and reduce sediment sources and proper management and maintenance to identify areas of trail surface repair and additional slope stabilization and revegetation further minimize long-term, potential impacts to surface water quality and beneficial uses from atmospheric deposition.

Anti-Degradation Policy. The State anti-degradation policy (Resolution No. 68-16) is incorporated into regional water quality control plans, including the Lahontan Basin Plan. The policy applies to high quality waters only (i.e. Lake Tahoe and tributaries) and requires that existing high quality be maintained to the maximum extent possible. The Project implements reasonable and appropriate measures for the protection of surface water quality and beneficial uses and complies with conditions set forth in Board Orders No. R6T-2011-0019 and R6T-2011-0101. Based on the stated evaluation criteria for determination of significant impacts to surface water quality and beneficial uses, the Project maintains beneficial uses and protects surface water quality through the Project proposal and implementation of mitigation measures for conformance with federal, regional, State and County codified regulations protection beneficial uses and surface water quality.

Federal, regional, State, and/or local regulations for Project permitting and approval dictate actions detailed in mitigation measures HYDRO-1, 2 and 3, GEO-3 through 10, AQ-1 and SR-1, which will assure conformance with such regulations and minimize potential impacts to water quality and beneficial uses to a level of less than significant.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 20 and 57 for descriptions):

> **HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs**
>
> Water quality Best Management Practices (BMPs) shall be designed according to the CASQA Stormwater Best Management Practice Handbooks for Construction, for New Development/Redevelopment, and/or for Industrial and Commercial, (and/or other similar source as approved by the Placer County Engineering and Surveying Department (ESD)). The Project shall incorporate provisions related to drainage conveyances, water quality treatment, cut/fill

slopes, and revegetation. The Project shall infiltrate storm runoff from trail surfaces in adjacent clear zone areas. Where the trail lies in close proximity to existing roadways, capture and conveyance to infiltration areas may be necessary and shall be defined during final engineering design.

The Project shall conform to requirements for permanent BMPs as outlined in TRPA revised Code Chapter 60 (Section 60.4), Lahontan's Basin Plan Chapter 5 and WDRs and Placer County Codes and Ordinances.

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

The Project Applicant shall prepare and implement an Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs. This plan shall comply with TRPA revised Code Chapter 60 and Lahontan's updated WDRs. TRPA, Lahontan, and Placer County shall review the plan prior to issuance of final Project approval. Post-project monitoring shall include post-project BMP effectiveness monitoring and stormwater monitoring.

HYDRO-3. Implement Post-Construction Stormwater Management

Post-construction stormwater management shall be implemented in accordance with permit R6T-2011-0019 requirements for Lahontan Notice of Termination (NOT) conformance.

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

SR-1. Tree Protection and Avoidance Measures

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

83. Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? (CEQA IXb)

Standard of Significance: A significant impact results if the Project installs improvements that intercept groundwater or otherwise cause substantial changes in existing groundwater quality, quantity, elevations or movement; requires excavations greater than five (5) feet that will intercept groundwater; or fails to comply with Lahontan requirements for disposal of groundwater during construction, as outlined in TRPA revised Code Chapters 33 and 60, Lahontan Basin Plan Chapter 5.7 and Lahontan Board Order No R6T-2011-0101.

Groundwater Quantity. No facility features will affect groundwater quantity. Excavations necessary for trail construction will not exceed five (5) feet. As described for Questions 57, 61 and 64, preliminary soil evaluations and land capability determinations do not report soil conditions associated with shallow groundwater and no groundwater interception is expected from trail construction. Construction plan development including a more detailed grading plan will confirm this assessment.

Construction of supports for a bridge span across Dollar Creek could intercept groundwater for a period of time during construction, affecting groundwater quantity. Depending on final engineering requirements, the supports could use pile or helical pier features or could require more intrusive concrete footings. The Project proposal requires support design to avoid restricting flood flows and avoid SEZ and wetland intrusion and assumes a bridge span of 100 feet and avoidance of SEZ and potentially high groundwater table. If engineering requirements dictate a longer bridge span, larger support features may be necessary, requiring dewatering in the footing construction area. The Project will address this effect, if necessary, by constructing during the driest conditions possible, developing and implementing a dewatering plan that reduces short-term impacts (mitigation measure HYDRO-4). No long-term reduction in groundwater quantity will result from operation of the Project.

The Project causes no permanent change in the quantity of groundwater, either through direct addition or withdrawal, and thus poses no effects to local groundwater table levels.

Groundwater Movement. The Project proposal accommodates groundwater infiltration of surface runoff along the length of the shared-use trail alignment. Infiltration of surface water to groundwater occurs in close proximity to its origin, either in the adjacent clear zones for the asphalt concrete surface design option. The design element maintains the existing direction and rate of groundwater flows through use of asphalt concrete on raised permeable fill and bridge spans in portions of the project area that exhibit seasonal high groundwater levels or surface hydrology.

Implementation of compliance measure CM-4 assures compliance with Lahontan requirements for dewatering of groundwater during construction, if necessary, as outlined in Lahontan Basin Plan Chapter 5.7 and Lahontan Board Order No R6T-2011-0019. Depending on final engineering design, the Project will submit a dewatering plan as part of the SWPPP for NPDES construction permitting. Dewatering plans identify actions to be taken should unexpected groundwater interception occur during construction. Proper planning and implementation of the dewatering plan minimizes the risk of discharge of contaminants to groundwater or alteration of groundwater movement during construction.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

HYDRO-4. Construction Dewatering Plan

If groundwater interception is expected to occur, as based on final construction plans, excavation sites shall be protected with sand bags, water berms, siltation fences, or other Lahontan-approved techniques. Localized pumping shall clear the construction area of turbid standing water. Pumped water could be used to irrigate planted vegetation, sprayed on uplands to allow infiltration within the project area, held in Baker Tanks, or otherwise treated to remove suspended sediment to comply with the requirements of Board Order No. R6T-2011-0019 prior to discharge to Dollar Creek.

84. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? (CEQA IXc)

Standard of Significance. Alterations to drainage patterns capable of creating on-site or off-site erosion produce a significant impact. To conform to TRPA codified regulations set forth in revised Code Chapter 60, the 20-year, 1-hour storm runoff volume must be contained and infiltrated within the project area so that existing drainage patterns do not substantially change and result in erosion or siltation on or off-site.

The Project introduces new land coverage in formerly unpaved and undisturbed areas. Evaluation for Question 61 details existing and proposed land coverage. Increases in land coverage typically result in increases in runoff from impervious and compacted surfaces associated with land coverage. TRPA revised Code Chapter 60 requires drainage design to contain and infiltrate the 20-year, 1-hour storm runoff volume within the project area. The Project drainage design directs this surface flow to the edges of the trail and infiltrates runoff into the clear zone areas that function as source control so that existing drainage patterns do not substantially change and result in erosion or siltation on or off-site. Preliminary construction plans (Appendix C) identify 13 areas potentially requiring culverts to minimize effects to surface drainage crossed by the shared-use trail. Properly sized culverts installed at appropriate grade provide for cross drainage that will not contribute to substantial erosion or siltation on or off-site.

The Project proposal also maximizes the use of existing land coverage further reducing the potential to alter existing drainage patterns. Portions of the shared-use trail located within public ROWs or in close proximity to ROWs (e.g., SR 28) could modify roadway drainage, causing minor increases in or redirection of stormwater runoff as further discussed in Question 85. Final design of the SR 28 trail crossing at Dollar Drive requires coordination with Caltrans because the shared-use trail is partially located within the SR 28 ROW.

The Project proposal avoids alteration of the Dollar Creek stream course, requiring final design of the bridge to avoid placing pilings in or around the stream course.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

85. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (CEQA IXd)

Standard of Significance: A significant impact occurs if Project construction or operations substantially alter an existing watercourse alignment or capacities or increases in runoff occurs such that flooding

occurs because the 20-year, 1-hour storm volume cannot be captured by existing or proposed stormwater drainage facilities.

As described for Question 84, the Project largely avoids alterations to existing drainage patterns through location of new coverage over existing unpaved trails wherever possible and a drainage design that relies primarily on sheet flow and infiltration for source control along most of its length. This approach, as described above, meets requirements for containment of the 20-year, 1-hour storm runoff volume. Preliminary construction plans (Appendix C) identify 13 areas potentially requiring culverts to preserve surface drainage crosses by the shared-use trail. Properly sized culverts installed at appropriate grade provide for cross drainage that will not substantially increase the rate of amount of surface runoff that results in flooding on or off-site.

The asphalt concrete surface portions of the Project are most closely associated with higher capability lands (i.e., LCDs 6 and 4) and existing roadway ROWs. The basic strategy for drainage from this trail surface is sheet flow and infiltration onto the two-foot wide clear zones that are immediately adjacent to the sides of the shared-use trail. The shared-use trail runs very closely to existing roadways in portions of Segment 2-50 and 2-70. Coordination with Caltrans drainage needs at the SR 28 trail crossing will direct final design plans that capture surface runoff collected and convey and discharge to drainage facilities to avoid flooding on or off-site.

The impervious surface area increases within the project area; however, this increase is small in magnitude. Total land coverage within the 11,267,603 square foot project area increases from 0.5 percent to 1.9 percent. The Project proposal incorporates facility features and construction controls to promote source control, ensuring that runoff from new or modified surfaces has limited potential to combine with other modifications in the vicinity of the project area to significantly affect down gradient drainage channels or existing or planned stormwater infrastructure. The Project features that retrofit existing unpaved trails result in better infiltration of surface runoff within the project area as a whole.

To avoid creating new impediments during flood events, the Project proposes a 100-foot bridge span at Dollar Creek, which avoids impacts to Dollar Creek stream course, flows and SEZ.

Temporary construction BMPs contain runoff within the project area during precipitation events. The Project proposal maintains existing surface water drainage patterns and proposes source control for runoff from new impervious surfaces assuring that long-term operation of the shared-use trail does not alter existing surface water drainage patterns or increase runoff rates or volumes that result in flooding or stream bank erosion or exceed the capacity of existing or planned stormwater drainage systems so that the 20-year, 1-hour storm runoff cannot be contained within the project area.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

86. Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (CEQA IXe)

Standard of Significance: See analysis for Question 85, which addresses CEQA checklist item IXd and potential impacts to existing drainage patterns and concludes the level of impact to existing or planned stormwater drainage systems is reduce to a level of less than significant by the Project proposal.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

87. Would the Project otherwise substantially degrade water quality? (CEQA IXf)

Standard of Significance: Failure to implement effective, reasonable and appropriate measures to protect water quality and non-compliance with WQOs, waste discharge requirements or Board Orders NO R6T-2011-0101 and R6T-2011-0019 results in a significant impact to surface water quality and beneficial use.

See analysis for Question 82, which addresses CEQA checklist item IXa and concludes the level of impact to surface water quality and beneficial uses is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 20, 57 and 82 for descriptions):

HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

HYDRO-3. Implement Post-Construction Stormwater Management

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-4. File Permit Registration Documents (PRDs)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

SR-1. Tree Protection and Avoidance Measures

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

88. Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (CEQA IXg)

Standard of Significance: Placement of habitable structures within mapped 100-year flood hazard area creates a significant impact.

The Project installs no housing or habitable structures and thus places no housing within a mapped 100-year flood hazard area.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

89. Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows? (CEQA IXh)

Standard of Significance: If the Project places structures that impede or redirect 100-year flood flows, a significant impact results.

The analysis identifies no changes to the 100-year floodplain storage capacity, flow routes or boundaries and no effects to neighboring properties or structures.

FEMA FIRM maps consulted indicate no 100-year flood areas associated with Dollar Creek. Therefore, FEMA 100-year flood hazard areas are not present within the project area. Additionally, the Dollar Creek 100-year floodway is attenuated by Dollar Creek Reservoir located approximately 400 feet upstream. The Project proposal avoids potential impact to the course or flow of lesser flood flows, permitting increases in flood elevation or inundation areas. At the Dollar Creek crossing, the Project proposal employs a bridge span above historic high flow level and avoids creating barriers for floodwaters. These actions avoid altering the course or flows that may overbank. The Dollar Creek bridge hydraulic analysis completed during final construction design will more specifically identify the 100 year base flood elevation, if any, that the bridge span must be designed to avoid.

Environmental Analysis: *Less than Signficiant Impact.*

Required Mitigation: **None.**

90. Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (CEQA IXi)

Standard of Significance: Exposure of people or structures to a significant risk of loss, injury or death involving flooding constitutes a significant impact.

Dollar Reservoir is about one acre in size and is sited behind a 14-foot high and 400-foot long dam. The dam and reservoir do not currently serve any purpose other than providing a favorite destination for hikers and bikers (California State Parks 2005). The Project locates the bridge span to accommodate the shared-use trail crossing over Dollar Creek several hundred feet downstream of the existing Dollar Reservoir and does not alter any hydrological conditions that would increase the risk of dam failure, site inundation or debris flow risk over that which currently exists within the project area.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

91. Would the Project cause inundation by seiche, tsunami, or mudflow? (CEQA IXj)

Standard of Significance: An increase risk of inundation by seiche, tsunami or mudflow as a result of Project installation constitutes a significant impact.

The project area is located uphill of Lake Tahoe and based on the distance from the shoreline the project area is not likely affected by seiches. The project area topography contains no mudflow areas and no areas of increased potential for mudflows. Dollar Creek is mapped to have an increased potential for debris flows should dam failure at Dollar Reservoir occur. The effects of the Project do not add to this existing potential because the shared-use trail location is outside of the flood flow path and buffered by existing upstream barriers and does not significantly increase the quantity of shallow groundwater that could initiate debris flows.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

92. Will the Project result in changes in currents, or the course or direction of water movements? (TRPA 3a)

No. Standard of Significance: See analysis for Question 84, which addresses CEQA checklist item IXc and concludes the level of impact to existing drainage patterns of the project area is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

93. Will the Project result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site? (TRPA 3b)

No. Standard of Significance: A significant impact to surface water occurs if the Project results in increases in runoff from disturbed area because of compaction, vegetation removal and impervious surfaces such that the 20-year, 1-hour storm volume cannot be captured by existing or proposed stormwater drainage systems, as defined by TRPA revised Code Chapter 60. Revised Code Subsection 60.4.6 requires infiltration facilities to discharge runoff to groundwater except as provided in revised Subsection 60.4.8, which allows for approval of alternative BMPs to meet water quality standards under special circumstances that include bike trails.

See analyses for Questions 85 and 86, which address CEQA checklist items IXd and IXe and conclude, respectively, that the level of impact to existing drainage patterns, rate and amount of runoff from the Project to existing or planned stormwater drainage systems is reduced to a level of less than significant by the Project proposal.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

94. Will the Project result in alterations to the course or flow of 100-year floodwaters? (TRPA 3c)

No. Standard of Significance: See analysis for Question 89, which analyzes CEQA checklist item IXh and concludes the Project structures do not impede or redirect 100-yr floodwaters and the level of impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

95. Will the Project result in change in the amount of surface water in any water body? (TRPA 3d)

No. Standard of Significance: If the Project results in a change in the amount of surface water in a water body, a significant impact results as defined by TRPA revised Code Chapter 60.

The Project proposes use of culverts, a bridge span, and asphalt concrete trail raised on permeable fill/vented trail to avoid interruption of existing surface water and groundwater movement towards drainages, stream channels and SEZs. The shared-use trail crossing at Dollar Creek installs a 100-foot bridge span over the creek channel and associated SEZ to the edge of the SEZ setback (i.e., 50 feet from edge of SEZ boundary). Flows at this existing crossing are not impeded. The Project poses no impact to Dollar Reservoir water levels.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

96. Will the Project result in discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? (TRPA 3e)

No, with mitigation. Standard of Significance: Failure to implement effective, reasonable and appropriate measures to protect water quality and non-compliance with WQOs, waste discharge requirements or Board Order No R6T-2011-0019 or R6T-2011-0101 result in a significant impact to surface water quality and beneficial use.

See analysis for Question 82, which addresses CEQA checklist item IXa and concludes the level of impact to surface water quality and beneficial uses is less than significant after mitigation. Construction and operation of the Project does not cause alteration to surface water quality nor contribute towards non-attainment of TRPA Thresholds through implementation of the Project proposal and mitigation measures that assure conformance to federal, regional, State and local regulations and ordinances.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 20, 57 and 82 for descriptions):

> **HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs**
>
> **HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs**
>
> **HYDRO-3. Implement Post-Construction Stormwater Management**
>
> **GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)**
>
> **GEO-4. File Permit Registration Documents (PRDs)**
>
> **GEO-5. Conform to NPDES Permit Requirements**

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

GEO-9. Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans

GEO-10. Satisfy the requirements of Section II of the Land Development Manual (LDM)

SR-1. Tree Protection and Avoidance Measures

AQ-1. Conform to District Rule 228 – Fugitive Dust Control Plan

97. Will the Project result in alteration of the direction or rate of flow of ground water? (TRPA 3f)

No, with mitigation. Standard of Significance: See analysis for Question 83, which addresses CEQA checklist item IXb and concludes the level of impact to groundwater movement is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

98. Will the Project result in change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? (TRPA 3g)

No, with mitigation. Standard of Significance: See analysis for Question 83, which addresses CEQA checklist item IXb and concludes the level of impact to groundwater quantity and movement is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

99. Will the Project result in substantial reduction in the amount of water otherwise available for public water supplies? (TRPA 3h)

No. Standard of Significance: If the Project creates a demand that exceeds available water supplies, a significant impact to source water occurs as defined in TRPA revised Code Chapter 60.

As supported by the analysis in the Lake Tahoe Regional BPMP (TMPO 2010), implementation of bikeway and pedestrian projects is not anticipated to change the amount of surface water in any body of water in the Lake Tahoe Basin or reduce the amount of water available for public water supplies. The Project proposal does not include features such as developed trailheads with restroom facilities or

irrigated planting beds. Construction activities and initial revegetation activities require water, yet will occur in phases over the construction season and demand will not exceed the maximum permitted capacity of service providers.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

100. Will the Project result in exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches? (TRPA 3i)

No. Standard of Significance: See analysis for Question 89, which addresses CEQA checklist item IXh and concludes the level of impact related to flooding from the 100-year storm occurrence is less than significant.

The Project does not increase exposure of people or property to significant water related hazards such as wave action or seiches.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

101. Will the Project result in potential discharge of contaminants to the groundwater or any alteration of groundwater quality? (TRPA 3j)

No. Standard of Significance: See analysis for Question 83, which addresses CEQA checklist item IXb and concludes the level of impact to groundwater quality is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 83 for description):

HYDRO-4. Construction Dewatering Plan

102. Is the Project located within 600 feet of a drinking water source? (TRPA 3k)

No. Standard of Significance: A contaminating land use within 600 feet of a drinking water source identified on TRPA Source Water Assessment Maps constitutes a significant impact as defined by TRPA revised Code Section 60.3.

The shared-use trail and project area are not located within 600 feet of source water or source water protection zone as depicted on TRPA Source Water Assessment Maps, which were reviewed with TRPA front counter staff on February 15, 2012. Additionally, the Project proposal includes no transit stations or terminals, which are identified by TRPA as possible contaminating activities associated with linear public facilities that could contaminate drinking water sources.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.10 Land Use and Planning

This section presents the analyses for potential impacts to land use and planning. Table 25 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 25

Land Use and Planning

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
103. Physically divide an established community? (CEQA Xa)				X
104. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (CEQA Xb)			X	
105. Conflict with any applicable habitat conservation plan or natural community conservation plan? (CEQA Xc)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
106. Include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan? (TRPA 8a)	X			
107. Expand or intensify an existing non-conforming use? (TRPA 8b)				X

3.2.10.1 Environmental Settings

The project area lies entirely within Placer County, primarily within Conservancy and NTPUD owned properties. The TRPA exercises planning jurisdiction over the entire project area.

Primary uses within the project area are undeveloped lands (i.e., Conservancy, NTPUD utility easement, and NV Energy properties), Caltrans roadway ROW, and potentially some private property (Nahaas property) near SR 28. Some of the undeveloped areas contain existing unpaved trails. Nearby land uses include single family and multi-family homes, undeveloped areas, recreational areas and schools, and some retail/commercial areas. Table 26 provides trail lengths by land ownership.

Table 26

Property Ownership Summary

Ownership	Length (in feet)	Percent of Trail
Conservancy	8190	69%
NTPUD	2455	21%
Nevada Energy	790	7%
CalTrans ROW (SR 28)	135	1%
Private	255	2%*

Source: HBA 2012

Notes: * Determination of Project location on private land will be determined through an official boundary survey and delineation. The Project objective is to avoid and minimize effects to private parcels.

The Project traverses land within residential, conservation, recreation, and commercial/public service land use classifications. Figure 21 illustrates land use classifications identified in TRPA PASs within the project area. Table 27 describes the PASs, and land use designations for the Project.

Plan Area Statements. The TRPA Regional Plan guides decision-making as it affects growth and development within the Lake Tahoe Basin. Each Plan Area Statement provides a description of land use for a plan area, identifies planning issues, and establishes specific direction for planning to meet the policy direction of the Regional Goals and Policies Plan. Plan Area Statements also include plan maps that provide specific regulations for identified areas, similar to zoning maps. The Project is a linear public facility, a transportation route land use by TRPA definition, and classified as a special use within Plan Areas 009B and 012 and a nonconforming use in Plan Area 013. Plan Area Statement 012 includes a special policy (#5) that states, “This Plan Area should accommodate the connection of the North Tahoe PUD Bike Trail.”

Table 27

Trail Segment by Plan Area Statement and Land Use Designation

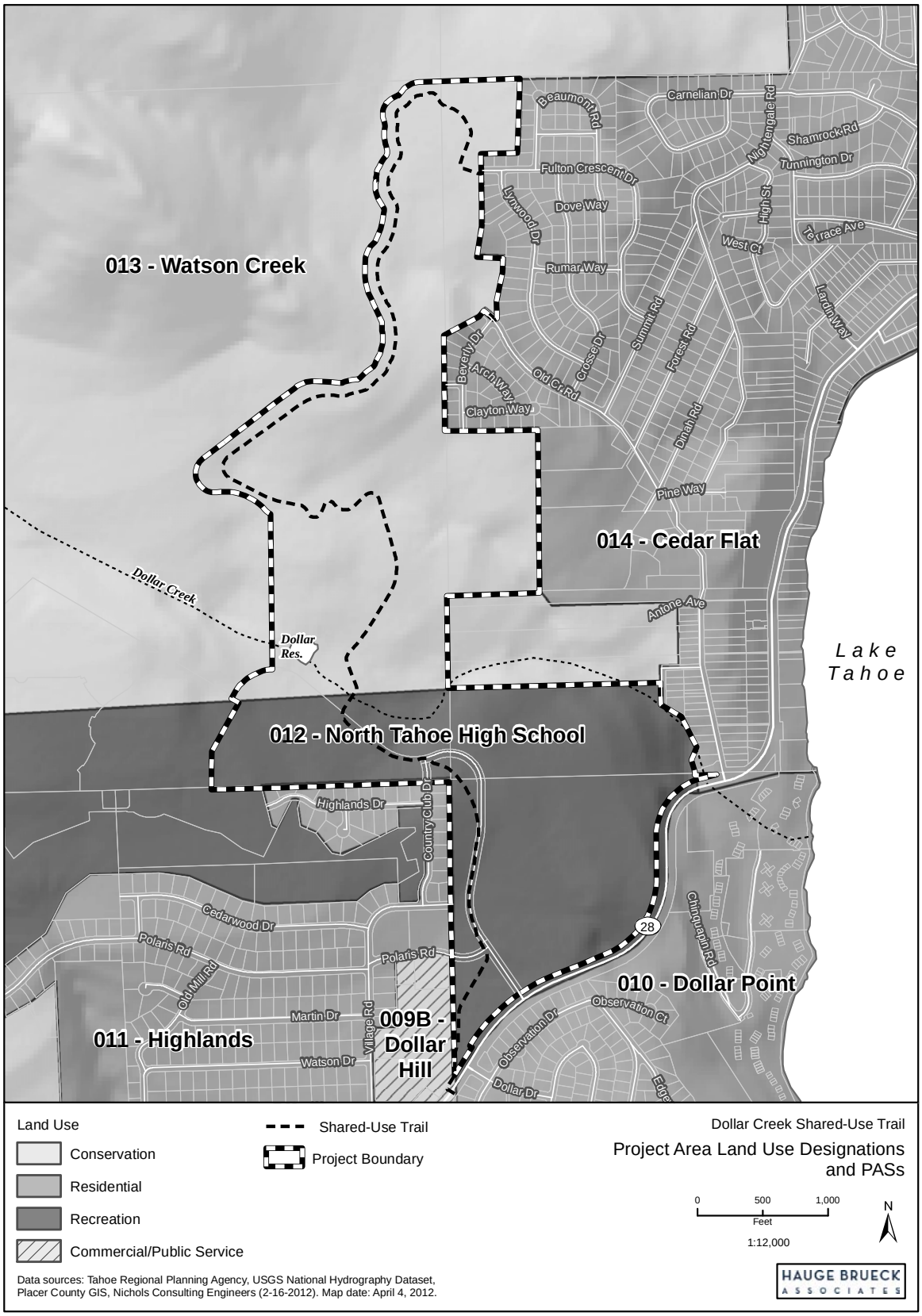
Trail Segment	PAS No.	PAS Name	Land Use Classification	Management Strategy	Permissible Uses	Segment Length - (feet)
SR 28 Connection	009B	Dollar Hill	Commercial/Public Service	Mitigation	Transportation Routes (S)	360
South Segment	012	North Tahoe High School	Recreation	Mitigation	Transportation Routes (S)	3,480
North Segment	013	Watson Creek	Conservation	Mitigation	Transportation Routes (NC)	7,985

Source: TRPA PAS

Notes: A – Allowable Use; S – Special Use; NC – Nonconforming Use

The Placer County Greater North Tahoe General Plan Land Use Classification for Plan Area 013 is "Conservation with a Mitigation Management Strategy". The County Plan Area Statements include mostly the same or similar permissible uses as listed in the TRPA Plan Area Statements, and likewise "transportation routes" are a nonconforming use in Plan Area 013. The Placer County Tahoe City Area General Plan Land Use Classification for Plan Area 009B is "Commercial/Public Service with a Mitigation Management Strategy" and for Plan Area 012 is "Recreation with a Mitigation Management Strategy". Transportation routes are listed as a special use in both of these Plan Areas. The Tahoe City Area General Plan also states under Special Policy #5 that Plan Area 012 should accommodate the connection of the NTPUD Bike Trail.

Figure 21. Project Area Land Use Designations and PASs



3.2.10.2 Environmental Analysis and Mitigation Measures

103. Would the Project physically divide an established community? (CEQA Xa)

Standard of Significance: A significant impact results if the Project installs a structural impediment to vehicle or pedestrian movement in the community. The TRPA Regional Plan, Plan Area Statements and Code, and County General Plans determine this level of impact significance.

The Project constructs a developed trail through undeveloped land, joining residential neighborhoods with commercial and community service areas in the North Lake Tahoe area. This segment of the trail connects to other trail segments, providing greater non-motorized access in the community. Section 2.6.4 of the IS/IEC lists connections from the Project to other trails and roads, neighborhoods, schools, employment centers, recreation areas, and transit centers. Since the Project provides a number of connections to services utilized by the local community and visitors, the Project does not divide the established community, rather provides greater opportunities for movement.

The Project installs a linear trail that is not of a size or use volume that physically divides the community or redirects existing traffic to change circulation patterns. Much of the Project is within forested, undeveloped land. The crossing at SR 28 includes a crosswalk access point; however, this does not prevent the current use or movement on SR 28 and does not prevent access between areas north and south of this pedestrian crossing. Because the Project reduces the physical divisions caused by existing development patterns, the Project results in improving connections within the urban community, thus avoiding impact.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

104. Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (CEQA Xb)

Standard of Significance: A significant impact results from non-compliance of the Project with land use plans, goals, policies, regulations or provisions as established by the TRPA Regional Plan Element and revised Code Chapters 21 and 20, and County General Plans.

TRPA. The Project includes a TRPA staff initiated amendment of the list of permissible land uses in Plan Area 013 to include "transportation routes" as a special use. TRPA revised Code Chapter 11 addresses PASs. Revised Code Section 11.8 includes regulations for amending a PAS. According to TRPA revised Code Subsection 11.8.2, modifications to permissible land uses shall be amended by ordinance. Findings, as listed in TRPA revised Code Subsection 11.8.4, are required prior to amendment adoption. These findings are as follows:

A. *The amendment is substantially consistent with the plan area designation criteria in Subsections 11.6.2 and 11.6.3;*
B. *If the amendment is to expand an existing urban plan area boundary or to add residential, tourist accommodation, commercial, or public service as permissible uses to a non-urban plan area, it must be found that the amendment will make the plan area statement consistent with an adopted policy or standard of the Regional Plan, and that the amendment will satisfy one or more of the following criteria:*

1) *The amendment is to correct an error which occurred at the time of adoption, including but not limited to a mapping error, an editing error, or an error based on erroneous information; or*
2) *The amendment enables TRPA to make progress toward one or more environmental thresholds without degradation to other thresholds as measured by the Chapter 16, Regional Plan and Environmental Threshold Review, indicators; or*
3) *The amendment is needed to protect public health and safety and there is no reasonable alternative.*

In accordance with TRPA revised Code Subsection 11.8.4, the amendment to add "transportation routes" as a special use to Plan Area 013 is consistent with the Conservation Land Use Classification as the shared-use trail is a low-intensity use that reduces motorized vehicle traffic on public roadways, maintains the hydrology of Dollar Creek and surrounding sensitive areas, and results in the restoration and discontinued use of parallel duplicative unpaved trails located within sensitive areas that cause erosion and other adverse impacts to the geology, hydrology, and habitat of the area. As a special use, future proposals for transportation routes in this area are subject to review and approval and are not considered a generally allowed use. TRPA revised Code Section 11.6 regards Special Designations and does not apply here.

Because Plan Area 013 includes existing USFS roadways for vehicle, bike and pedestrian use, and other nearby Plan Areas with the Conservation Land Use Classification (Martis Peak-019, Burton Creek-004, etc.) include transportation routes as a special use, the omission of transportation routes as a special use in Plan Area 013 may have been an error at the time of Regional Plan adoption.

In addition and in accordance with this revised Code Subsection, the amendment enables TRPA to make progress toward one or more environmental thresholds without degradation to other thresholds as measured by the TRPA revised Code Chapter 16 indicators. Although no TRPA Thresholds for land use exist, the project promotes the Recreation Threshold through establishment of new recreation resources and linkages to other recreation in the area and improvement of access to and quality of the recreational experience. Development of the Project improves bicycle and pedestrian access and provides an alternative to the use of the automobile, which results in progress toward air quality, water quality, traffic, and other associated environmental goals. Retrofit of existing unpaved trails reduces erosion and hydrological impacts. The use of concrete asphalt on permeable fill/vented trail in areas of seasonal surface hydrology protects SEZ and hydrologic function without increasing erosion and sedimentation. The addition of transportation routes to the list of permissible land uses is consistent with the proposed shared-use trail route identified in the Tahoe Region Bicycle and Pedestrian Master Plan (TMPO 2010) as well as the TRPA EIP, which seeks to construct shared-use trails to reduce vehicle travel and associated environmental impacts caused by vehicle travel, as well as restore sensitive areas that are currently disturbed.

Implementation of the proposed amendment results in consistencies with policies related to allowable uses that would otherwise result in an inconsistency.

The proposed Plan Area 013 amendment and Plan Areas 009B and 012 identify transportation routes as a special land use (see Table 27). The land use is permissible but requires review and approval. TRPA must hold a public hearing and make specific findings under TRPA revised Code Subsection 21.2.2 before approving a special use. The special use findings for each of the three Plan Areas, as required in TRPA revised Code Subsection 21.2.2, Special Uses, follow

A. *The project, to which the use pertains, is of such a nature, scale, density, intensity and type to be an appropriate use for the parcel on which, and surrounding area in which, it will be located.*

The Lake Tahoe Regional BPMP identifies the Project as a proposed shared-use trail. Plan Area Statement 012 includes a special policy (#5) that states, "This Plan Area should accommodate the connection of the North Tahoe PUD Bike Trail." The Project is located on existing footpaths and undeveloped forest land and improves public access and enjoyment of natural settings on public land. The Project Area is currently accessed through existing unpaved trails, some of which are improperly located in environmentally sensitive areas. The Project restores many of these disturbed areas and creates an access route that avoids sensitive areas. For these reasons, a shared-use trail is appropriate in this location.

B. *The project, to which the use pertains, will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water and air resources of both the applicant's property and that of surrounding property owners.*

The Project is located on undeveloped land between existing residential neighborhoods and does not significantly increase vehicle travel, operational air emissions, noise, lighting, or population. The Project provides improved community access for people of various ability levels while maintaining a large buffer from adjacent land uses. Where the trail must run close to residential development or SR 28, the design allows installation of physical barriers (boulders, log fencing, etc.) or increased vegetative screening. As discussed in the Traffic (3.2.16), the Project will produce a minor increase in VMT. Some roadway improvements at SR 28 will occur (trail crossing and trailhead parking access roadway intersection), yet these features will not alter the general welfare of direct neighbors or the community at large and will improve pedestrian safety, particularly in accessing the existing bus stops. New trail users who may drive to the trail are directed with signage to on-street parking near the SR 28 and Dollar Drive or Fabian Way intersections or to the proposed trailhead parking lot. Therefore, property owners within the adjacent residential neighborhoods are not impacted by new sources of noise or liter from trail users who park on their streets. Analysis of overall environmental effects on land, air, and water resources of the project area presented throughout this document identify no effects capable of impacting surrounding property.

C. *The project, to which the use pertains, will not change the character of the neighborhood, detrimentally affect or alter the purpose of the applicable planning area statement, community plan and specific or master plan, as the case may be.*

The presence of improved non-motorized access does not change the character of the area and is compatible with the Commercial/Public Service classification of Plan Area 009B and the Recreation classification of Plan Area 012. Existing unpaved trails are located in the project area and are used by pedestrians and bikers. The North Tahoe High School Plan Area (Plan Area 012) states the Plan Area should accommodate the connection of the North Tahoe PUD Bike Trail and the Project establishes a portion of this connection. The Project is compatible with the recreation land uses allowed in Plan Area 013 (e.g., day use area) and does not change the Conservation Land Use Classification of Plan Area 013 as it is a low-intensity use that maintains the hydrology of Dollar Creek and surrounding sensitive areas.

The Plan Area Statements have a mitigation management strategy. The Project results in a developed trail, with decommissioning of some existing parallel unpaved trails located within environmentally sensitive areas. The Project improves environmental quality through the restoration of disturbed areas and use of permanent best management practices and is

appropriately located outside sensitive areas, utilizing permeable fill in areas that where asphalt concrete on impermeable fill is not appropriate.

TRPA revised Code Chapter 30 establishes land coverage limits. Land coverage is described in detail in 61 and Table 19, which identify coverage quantities and discuss compliance with TRPA revised Code Chapter 30. This evaluation concludes compliance with Chapter 30 provisions for existing and proposed coverage.

Placer County. The County's Land Use Element goals seek to promote the wise, efficient, and environmentally-sensitive use of Placer County lands to meet the present and future needs of Placer County residents and businesses (Land Use Goal 1.A), designate land for and promote the development and expansion of public and private recreational facilities to serve the needs of residents and visitors (Land Use Goal 1.G), and to establish and maintain interconnected greenbelts and open spaces for the protection of native vegetation and wildlife and for the community's enjoyment (Land Use Goal 1.I). Specifically, policy 1.G.2 states, "the County shall strive to have new recreation areas located and designed to encourage and accommodate non-automobile access." The Project supports these goals and objectives through trail retrofits, reflecting the land use policies of each of the Plan Area Statements as met with special use approval, and a design element that maximizes the use of high capability land. The Project avoids impacts to SEZs and allows for continued hydrologic function and the retrofit of existing unpaved trails results in a benefit to overall SEZ function. The Project promotes non-motorized circulation within the community and supports public enjoyment of undeveloped areas.

To be consistent wih the TRPA staff iniitated amendment of PAS 013, an amendment to the North Tahoe Area General Plan is proposed to alter the list of permissible uses in Plan Area 013. The amendment expands the list of permissible land uses to include "transportation route" as a special use. According to County Code Section 17.60.090(G) amendments to General Plans are processed through 1) a Planning Commission Hearing and Recommendations followed by 2) a Board of Supervisors Hearing and Decision per County Code Sections 17.60.090 (A through D), and, if approved by the Board of Supervisors, is adopted through resolution. As discussed above for amendments to TRPA Plan Areas, it is feasible for County amendments to occur as the proposed amendment does not alter the intent of the Plan Area Classification and is in keeping with proposed shared-use trail routes identified in the Lake Tahoe Regional Bike and Pedestrian Master Plan (BPMP), as well as the goals of the TRPA EIP, and the goals and policies of the Placer County General Plan.

Based on preliminary drawings, it appears that encroachment into the private Nahaas-owned property near SR 28 (preliminarily, equal to approximately 256 feet) may be necessary, but final determination as to the extent of potential encroachment will be based on boundary survey and an independent search for easements of record, encumbrances, restrictive covenants, ownership, title evidence, or any other facts which an accurate and current title search may disclose. In the event an easement is required, Placer County will follow County procedures to obtain an easement for encroachments onto private property. The landowners will be appropriately compensated for easements based on fair market value.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

105. Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan? (CEQA Xc)

Standard of Significance: A significant impact results from noncompliance with an adopted habitat conservation plan or natural community conservation plan.

The Project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because no such plans exist for the project area.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

106. Will the Project include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan? (TRPA 8a)

Yes. Standard of Significance: A significant impact results from inconsistency with permissible land uses established in Plan Area Statements 009B, 012 and 013.

See analysis for Question 104, which addresses CEQA checklist item Xb and concludes the level of impact related to land use, zoning and permissible uses is less than significant with implementation of the proposed amendment.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None**

107. Will the Project expand or intensify an existing non-conforming use? (TRPA 8b)

No. Standard of Significance: A significant impact results from expansion of an existing non-conforming use that is in conflict with permissible land uses as established in TRPA Plan Area Statements.

Construction of an approved trail, considered a special use, will not expand or intensify an existing non-conforming use because the Project is a new use and not an existing non-conforming use.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

3.2.11 Mineral Resources (CEQA) and Natural Resources (TRPA)

This section presents the analyses for potential impacts to mineral resources and natural resources. Table 28 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 28

Mineral Resources and Natural Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
108. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (CEQA XIa)				X
109. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (CEQA XIb)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
110. A substantial increase in the rate of use of any natural resources? (TRPA 9a)				X
111. Substantial depletion of any non-renewable natural resource? (TRPA 9b)				X

3.2.11.1 Environmental Setting

The project area contains no mineral resources of value to the region or residents of the State of California, nor does it include the substantial use of any non-renewable natural resources.

3.2.11.2 Environmental Analysis and Mitigation Measures

108. Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (CEQA XIa)

Standard of Significance: A significant impact occurs if the Project creates a loss of availability of mineral resources that are valuable to the region.

The project area contains no mineral resources areas, and therefore, the Project creates no impact to such resources.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

109. Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (CEQA XIb)

Standard of Significance: A significant impact occurs if the Project creates a loss of availability of locally important mineral resource recovery sites.

The project area contains no mineral resource recovery sites, and therefore, the Project creates no impact to such sites.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

110. Will the Project result in a substantial increase in the rate of use of any natural resources? (TRPA 9a)

Standard of Significance: A significant impact occurs if the Project creates a substantial increase in the rate of use of natural resources.

The Project does not create population increases or facilities that could substantially increase the rate of use of natural resources and thus creates no impact to such resources.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

111. Will the Project result in a substantial depletion of any non-renewable natural resource? (TRPA 9b)

Standard of Significance: A significant impact occurs if the Project creates a substantial depletion of non-renewable resources.

The Project does not include facilities or actions that cause depletion of non-renewable natural resources and thus creates no impact to such resources.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

3.2.12 Noise

This section presents the analyses for potential impacts related to noise. Table 29 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 29

Noise

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
112. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (CEQA XIIa)		X		
113. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (CEQA XIIb)			X	
114. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIIc)		X		
115. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIId)		X		
116. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIe)				X
117. For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIf)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
118. Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan? (TRPA 6a)		X		
119. Exposure of people to severe noise levels? (TRPA 6b)		X		
120. Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold? (TRPA 6c)		X		

3.2.12.1 Environmental Setting

Land uses in the Project area and vicinity include recreation, open space, residential, and light commercial uses. The main sources of noise are from vehicular traffic along residential and commercial roadways, including SR 28 and neighborhood streets.

Noise. *Sound* is mechanical energy transmitted by pressure waves in a compressible medium such as air. *Noise* can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called *A-weighting*, which is written "dBA." In general, human sound perception is such that a change in sound level of 3 dB is just noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving sound level.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). Below are brief definitions of these measurements and other terminology used in this analysis:

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Ambient Noise.** The composite of noise from sources near and far in a given environment exclusive of particular noise sources to be measured.
- **Decibel (dB).** A unit less measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.

- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Sound Level (L_{eq}).** The average of sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level that in a stated period would contain the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A weighted equivalent sound level (L_{eq}) is the energy average of A-weighted sound levels occurring during a 1-hour period and is the basis for noise abatement criteria (NAC) used by Caltrans and Federal Highway Administration.
- **Exceedance Sound Level (L_{xx}).** The sound level exceeded XX percent of the time during a sound level measurement period. For example L_{90} is the sound level exceeded 90% of the time and L_{10} is the sound level exceeded 10% of the time.
- **Maximum and Minimum Sound Levels (L_{max} and L_{min}).** The maximum or minimum sound level measured during a measurement period.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Noise Abatement Criteria.** The NAC are used to identify traffic noise impacts under the requirements of 23CFR772. A traffic noise impact occurs at a receiver when the predicted design year noise level approaches or exceeds the NAC.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

Noise Sources. Noise sources in the project area include noise from traffic traveling on vicinity roadways, aircraft overflights, and recreational activities such as hiking, biking, bouldering and skiing.

Stationary Sources. Stationary noise sources in the project area and vicinity include residences, commercial uses, and parking areas. Low-density residential and light commercial/parking uses exist along the southern entrance to the project area. Residential uses exist along the northern entrance to the project area. The bulk of the project area is located within the open forest and away from stationary sources.

Mobile Sources. Mobile noise sources include traffic along SR 28 and residential roadways. Noise levels associated with mobile sources vary seasonally with summer and winter increases in visitor activity.

Noise Sensitive Land Uses. Noise sensitive land uses are generally defined as locations where people reside or where the presence of noise could adversely affect the use of the land. Typical noise-sensitive land uses include residences schools, hospitals, and parks. Recreational activities found in the project area are not considered to be noise-sensitive land uses because they are transitory in nature with exposure of users typically being less than one hour. Noise-sensitive land uses in the project area that could be affected by the Project include residences adjacent to the trail alignment.

Blasting. Blasting is unlikely, but will potentially be required to construct the Project. The two primary environmental effects of blasting are airblast and groundborne vibration. Blasting creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Ground vibration can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different

frequencies and displacements. In all cases, vibration amplitudes decrease with increasing distance. As seismic waves travel outward from a blast, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (ppv).

Airblast. Energy released in an explosion creates an air overpressure (commonly called an airblast) in the form of a propagating wave. If the receiver is close enough to the blast, the overpressure can be felt as the pressure front of the airblast passes. The accompanying booming sound lasts for only a few seconds. The explosive charges used in mining and mass grading are typically wholly contained in the ground, resulting in an airblast with frequency content below about 250 cycles per second, or Hz. Because an airblast lasts for only a few seconds, use of Leq (a measure of sound level averaged over a specified period of time) to describe blast noise is inappropriate. Airblast is properly measured and described as a linear peak air overpressure (i.e., an increase above atmospheric pressure) in pounds per square inch (psi). Modern blast monitoring equipment is also capable of measuring peak overpressure data in terms of unweighted dB. Decibels as used to describe airblast, should not be confused with or compared to dBA, which are commonly used to describe relatively steady-state noise levels. An airblast with a peak overpressure of 130 dB can be described as being mildly unpleasant, whereas exposure to jet aircraft noise at a level of 130 dBA is painful and deafening.

Vibration. Operation of heavy construction equipment, particularly pile driving and other impact devices, such as pavement breakers, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance. Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

Table 30 summarizes typical vibration levels generated by construction equipment (FTA 2006a).

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The equation below can be used to estimate the vibration level at a given distance for typical soil conditions (FTA 2006a). PPV_{ref} is the reference PPV from Table 30:

$$PPV = PPV_{ref} \times (25/Distance)^{1.1} \text{ (in/sec)}$$

Table 30

Vibration Source Amplitudes for Construction Equipment

Equipment	PPV at 25 feet
Vibratory roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: FTA 2006a.

Tables 31 and 32 summarize typical human response to transient and continuous vibration that is usually associated with construction activity. Equipment or activities typical of continuous vibration include: excavation equipment, static compaction equipment, tracked vehicles, traffic on a roadway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. Equipment or activities typical of single-impact (transient) or low-rate repeated impact vibration include: impact pile drivers, blasting, drop balls, “pogo stick” compactors, and crack-and-seat equipment (Caltrans 2004).

Table 31

Human Response to Transient Vibration

PPV	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible

Source: Caltrans 2004

Table 32

Human Response to Continuous Vibration

PPV	Human Response
3.6 (at 2 Hz) to 0.4 (at 20 Hz)	Very disturbing
0.7 (at 2 Hz) to 0.17 (at 20 Hz	Disturbing
0.10	Strongly perceptible
0.035	Distinctly perceptible
0.012	Slightly perceptible

Source: Caltrans 2004

State, TRPA and County Noise Regulations. There are no applicable state regulations that pertain to noise in the project area.

The 1987 Regional Plan for the Lake Tahoe Basin provides for the achievement and maintenance of the adopted environmental threshold carrying capacities (thresholds) while providing opportunities for orderly growth and development. TRPA noise thresholds are contained in the Land Use Element of Regional Plan. Noise thresholds have been established for aircraft noise sources; single-event noise sources (i.e., noise from boats, motor vehicles, motorcycles, off-road vehicles, and snowmobiles that occur in a nonregular or nonrepetitive manner); and community noise levels, which are used to determine land use compatibility. The TRPA community noise threshold for high density residential and for urban outdoor recreation areas is 55 dBA and low density residential areas is 50 dBA. TRPA adopted an outdoor CNEL standard for each PAS. Table 33 shows the CNEL standards by PAS for the Project.

Table 33

TRPA Outdoor CNEL Noise Standards by PAS

PAS Number	CNEL Standard
009B	60
012	55
013	50

Source: TRPA 2012

TRPA revised Code Chapter 68 (Noise Limitations) establishes noise limitations for areas within TRPA's jurisdiction. Section 68.3 establishes noise level standards (expressed in CNEL) that shall not be exceeded. In addition, Section 68.3 stipulates that community noise levels shall not exceed levels existing on August 26, 1982, where such levels are known. Section 68.9 stipulates that TRPA-approved construction or maintenance projects, or the demolition of structures, are exempt from TRPA's Code of Ordinances Noise Limitations (revised Chapter 68) if the activities occur between the hours 8:00 a.m. and 6:30 p.m.

The County's noise ordinance is found in Article 9.36.030 of the Placer County Code, which states that construction activities are exempt from the Noise Ordinance, if construction activities take place between the hours of 6:00 am and 8:00 pm Monday through Friday and 8:00 am and 8:00 pm Saturday and Sunday. This is provided that construction equipment is fitted with factory installed muffling devices and maintained in good working order.

3.2.12.2 Environmental Analysis and Mitigation Measures

112. Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (CEQA XIIa)

Standard of Significance: Exceedance of CNEL limits stated in project area PASs and Regional and County noise ordinances constitutes a significant noise impact.

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- A change in noise levels of 3 dBA is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Construction related activities generate a short-term increase of existing ambient noise levels. The TRPA revised Code Section 68.9 states that TRPA-approved construction projects are exempt from the quantitative limits contained in the Noise Ordinance if construction activities take place between the hours of 8:00 am and 6:30 pm. The Placer County Code (Article 9.36.030) states that construction activities are exempt from the Noise Ordinance, if construction activities take place between the hours of 6:00 am and 8:00 pm Monday through Friday and 8:00 am and 8:00 pm Saturday and Sunday, provided that all construction equipment is fitted with factory installed muffling devices and maintained in good working order. The PAS CNELs for the project area equate 60 (PAS 009B), 50 (PAS 013) and 55 (PAS 012) CNEL. With the implementation of the mitigation measure NOI-1 described below, the Project may result in a temporary or periodic exposure to or generation of noise levels in excess of standards established in the local General Plan, Community Plan, or Noise Ordinance, but it will be temporary and is allowable under local ordinances. Therefore, the Project will have a less than significant impact on noise during construction after mitigation.

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a street with moving vehicles, typically attenuate at a lower rate, between 3 dB and 4.5 dB per doubling of distance.

Even the busiest shared-use trails in the United States are extremely quiet, with little noise created other than the occasional low volume conversation, barely audible beyond 10 or 20 feet of the trail edge. Walking, running, dog walking, and bicycling, by their nature, generate virtually no noise. Potential sources of greater volumes, such as platoons of bicyclists or congregating teenagers, are occasional and sporadic. Club cyclists normally prefer to ride where higher speeds can be achieved, such as roads like SR 28, rather than on shared-use trails with many pedestrians. Trial use involves very low sound levels occurring intermittently over the 24-hour day (i.e. CNEL period), with most use falling within the +/- 12-hour period of daylight. Conformance to CNEL standards will occur throughout the length of the project area.

The long-term operation of the Project results in little to no new, long-term sources of operational noise because the shared-use trail is limited to non-motorized vehicle use (except that generated by occasional disabled persons with mobility devices, maintenance or emergency vehicles). Noise from recreation activities (e.g., bicycling, walking, running) is not considered nuisance noise. As described in Section 3.2.16 of the IS/IEC, daily drive-to-trail volumes on roads will not be substantial enough to create a noticeable change (i.e., 3 dBA) in roadside noise levels over the long-term.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

Temporary noise emanating from construction activities shall only occur between the hours of 8:00 am and 6:30 pm per TRPA Code, unless other hours are approved by TRPA. Construction activities before or after the time restriction may occur, but must be consistent with CNEL limits imposed for the applicable TRPA PAS. Construction equipment shall be fitted with the factory installed muffling devices and shall be maintained in good working order. Shrouding or shielding of impact tools and muffling or shielding intake and exhaust ports on construction equipment shall be required. The County shall advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. The County or its contractor shall attempt to respond to all noise complaints within one working day and resolve the issue as soon as possible.

113. Would the Project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? (CEQA XIIb)

Standard of Significance: 30 CFR Part 816 defines a significant impact as a vibrational increase greater than 1 inch/second peak particle velocity, as based on typical characteristics of Project equipment and materials.

Trail operations do not create groundborne vibration. Construction activities associated with the operation of heavy equipment during construction could generate localized groundborne vibration. Vibration from non-impact construction activity is typically below the threshold of perception when the activity is more than 50 feet from the receptor. Additionally, vibration from these activities is of limited duration and ends when construction is completed. The trail passes close to residences along the terminus of County Club Drive, Highlands Drive, and Beverly Drive. Construction groundborne vibration will be temporary and intermittent.

Vibration and airblast could occur if blasting techniques are used. Based on soil analyses along the project area, only minimal blasting is likely, if at all. Blasting requirements depends on the soundness of the rock.

Human response to blast vibration and airblast is difficult to quantify. Vibration and airblast can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does blast frequency. Blast events are relatively short, on the order of several seconds for sequentially delayed blasts. Generally, as blast duration and vibration frequency increase, the potential for adverse human response increases. Areas of trail that may require blasting are of sufficient distance away from residences such that the potential for impacts to structures or residences from groundbourne vibration is reduced to a level of less than significant.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

114. Would the Project result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIIc)

Standard of Significance: Substantial permanent increase in ambient noise levels in the Project vicinity created by the Project constitutes a significant impact, as defined by permissible CNELs for PAS and noise ordinances.

As documented in Section 3.2.16 of the IS/IEC, Project operations do not result in a significant increase in total daily vehicle trips from existing conditions. As described above for Question 112, operations of shared-use trails in the United States are extremely quiet. Even in the limited number of locations where existing development lies close to the trail, changes in ambient noise levels will not reach the 3 dBA change in CNEL identified as "just perceivable". Walking, running, dog walking, and bicycling, by their nature, generate virtually no ambient noise. Potential sources of greater volumes, such as platoons of bicyclists or congregating teenagers, will not exist on the trail alignment because club cyclists normally prefer to ride on roads like SR 28 than on trails.

The Project results in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project during construction, but noise will be temporary and is allowable under local ordinances as described in mitigation measure NOI-1. Therefore, the Project will have a less than significant impact on noise after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description)**:**

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

115. Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project? (CEQA XIId)

Standard of Significance: TRPA revised Code Section 68.9 stipulates that TRPA-approved construction or maintenance projects, or the demolition of structures, are exempt from TRPA's noise limitations if the activities occur between the hours 8:00 a.m. and 6:30 p.m. Construction activities occurring outside of this noise exemption time construction period or if noise levels exceed CNEL levels set for the land use categories and PAS corresponding to the project area (see Table 33) constitutes a significant impact.

Noise generated during typical construction activities is indicated in Table 34, ranging from 76 to 82 dB at distances of up to 50 feet. As described for Question 113, a few residences sit close to the construction area. Based on these equipment noise levels and a typical noise-attenuation rate of 6 dB per doubling of distance, noise levels at 25 feet from individual pieces of equipment typically range from between 83 to 96 dB. As such, operation of individual or multiple pieces of construction equipment could result in substantial temporary or period increases in ambient noise levels at sensitive receptors (e.g., residences, recreational locations, and hotels) during typical construction activities. However, mitigation measure NOI-1 minimizes noise effects related to construction by placing noise controls on construction equipment.

Practices such as locating construction equipment and staging areas to minimize noise effects, restricting construction vehicle idling during periods of non-use, and restricting noise-generating construction activities to the hours between 8:00 a.m. and 6:30 p.m., Monday through Saturday (during which such

activities are exempt from the TRPA noise standards – TRPA revised Code Section 68.9) further reduce noise impacts to a level of less than significant.

Table 34

Construction Equipment Noise

Type of Equipment	Maximum Level
Backhoe	80 dB at 50 feet
Bobcat	NA
Excavator/Dozer	85 dB at 50 feet
Grader	85 dB at 50 ft
Material Delivery Truck, Water Truck	88 dB at 50 feet
Paver	77 dB at 50 feet
Roller	74 dB at 50 feet
Crane	81 dB at 50 feet

s

ource: FTA 2006

Another potentially significant Project-generated noise source is truck traffic associated with transport of materials and equipment to and from construction sites. This noise increase is of short duration and under normal scheduling occurs within the TRPA construction noise limit hours primarily during daytime hours. Mitigation measure NOI-1 includes shrouding or shielding impact tools and muffling or shielding intake and exhaust ports on construction equipment.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description):

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

116. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIe)

Standard of Significance: Exposure of people residing or working in the project area to excessive noise levels from aircraft results in a significant impact.

The project area is not located within two miles of a public airport or public use airport and therefore does not expose people working in the project area to excessive noise levels from aircraft.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

117. For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIf)

Standard of Significance: Exposure of people residing or working in the project area to excessive noise levels from aircraft results in a significant impact.

The project area is not within the vicinity of a private airstrip and therefore does not expose people working in the project area to excessive noise levels from aircrafts.

The Project does not establish permanent, non-transitory populations after completion of construction and does not expose people utilizing the trail to excessive noise levels..

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

118. Would the Project result in increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan? (TRPA 6a)

No, with mitigation. Standard of Significance: See analysis for Question 112, which addresses CEQA checklist item XIIa and concludes the level of impact related to CNELs is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description)**:**

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

119. Would the Project result in exposure of people to severe noise levels? (TRPA 6b)

No, with mitigation. Standard of Significance: See analysis for Question 114, which addresses CEQA checklist Item XIIc and concludes that the level of impact to exposure of people to severe noise levels (i.e., vibrational or ground bourne noise) is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description):

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

120. Will the Project result in single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold? (TRPA 6c)

No, with mitigation. Standard of Significance: See analysis for Question 115, which addresses CEQA checklist Item XIId and concludes that the Project with mitigation does not result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity outside of the daytime hours allowed for temporary construction activities.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 112 for description):

NOI-1. Time of Day Construction Restrictions and Equipment Muffling

3.2.13 Population and Housing

This section presents the analyses for potential impacts to population and housing. Table 35 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 35

Population and Housing

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
121. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (CEQA XIIIa)			X	
122. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (CEQA XIIIb)				X
123. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (CEQA XIIIc)				X
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
124. Alter the location, distribution, density, or growth rate of the human population planned for the Region? (TRPA 11a)				X
125. Include or result in the temporary or permanent displacement of residents? (TRPA 11b)				X

126. Affect existing housing, or create a demand for additional housing? To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions: (1) Will the proposal decrease the amount of housing in the Tahoe Region? (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households? (TRPA 12a)				X
127. Will the proposal result in the loss of housing for lower-income and very-low-income households? (TRPA 12b)				X

3.2.13.1 Environmental Setting

Population. The 2010 United States Census reports the population of the Lake Tahoe portion of Placer County (Lake Tahoe CCD), including Tahoe City and associated areas, as 10,448 (Table 36).

Housing. The 2010 United States Census reports the total housing units for the Lake Tahoe portion of Placer County as 12,106. Data indicate a large presence of seasonal or recreational use units with 7,014 classified as vacant for occasional use. City-data.com (accessed February 2012) identifies the estimated median house or condo value in Tahoe City at $754,064 and the median gross rent in the area at

Household Income. City-data.com (accessed February 2012) identifies the 2010 estimated median household income at $73,597.

Neighborhood Characteristics. Neighborhood characteristics near the project area consist of residential uses, primarily single-family homes. A few multi-residential units are also located in the area. Other neighborhood uses in the vicinity of the project area include a crosscountry ski center, North Tahoe High School and a small commercial area along SR 28.

Federal, TRPA and County Regulations. No Federal, TRPA or County regulations directly addressing population exist for the project area. The TRPA Regional Plan Goals and policies state, “Population growth in the Region is to be guided by the limitations on land use and other environmental threshold capacities set forth in the Plan.” TRPA completed an Economic Threshold Evaluation Report in 2001 but did not define specific controls on population levels.

TRPA Code of Ordinances and threshold restrictions limit housing growth and redevelopment of existing housing. TRPA limits new housing construction using an allocation system defined in TRPA revised

Code Chapter 50 – Allocation of Development. Transfer of existing development rights can also occur according to TRPA revised Code Chapter 51 – Transfer of Development.

Table 36

2010 Census Data

Census Tract	White (Non Hispanic /Latino)	African American	American Indian	Asian/ Pacific Islander	Hispanic or Latino	Other or Multi-Racial	Total
Total of Placer County	246,267	4,751	3,011	21,213	44,710	28,480	348,432
Lake Tahoe portion of Placer County	6,705	48	51	117	2,720	807	10, 448

Source: U.S. Census Bureau, 2010 Census (Hispanic or Latino and Race

3.2.13.2 Environmental Analysis and Mitigation Measures

121. Would the Project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (CEQA XIIIa)

Standard of Significance: A significant impact results from direct and indirect population growth in excess of the growth anticipated in the TRPA Regional Plan, as disclosed in the Land Use Element and PASs.

The Project installs a shared-use trail linking existing neighborhoods to commercial centers and neighborhood facilities but proposes no new homes or businesses. A temporary increase in population due to construction activities could occur; however, considering the existing underemployed construction labor pool in the area, an increase, if present, will be minor and not permanent. With construction down in the existing economy, a sufficient local construction labor pool exists.

The addition of the Project to the community could increase the desirability of the adjacent neighborhoods because the shared-use trail offers an alternative transportation link to various sites within the community. However, the Project proposal provides for no long-term employment, educational opportunities, or other population-generating features known to increase local populations.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

122. Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? (CEQA XIIIb)

Standard of Significance: Displacement of substantial numbers of existing housing that necessitates construction of replacement housing elsewhere creates a significant impact.

The Project does not displace housing or necessitate the construction of replacement housing elsewhere and thus creates no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

123. Would the Project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? (CEQA XIIIc)

Standard of Significance: Displacement of substantial numbers of people that necessitates construction of replacement housing elsewhere creates a significant impact.

The Project does not displace people and thus creates no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

124. Will the Project alter the location, distribution, density, or growth rate of the human population planned for the Region? (TRPA 11a)

No. Standard of Significance: Alteration to land use patterns not envisioned by the Regional Plan or City General Plan constitutes a significant impact to human population planned for the Region.

The Project creates no new housing units or permanent employment opportunities. Because the Project improves non-motorized access between existing neighborhoods and community facilities, the desirability of residential neighborhoods benefitted by the trail has the potential to increase. No overall change in housing density or availability will occur, however, because housing is regulated and limited by TRPA. With no residential displacement, permanent employment opportunities or new housing developments, the Project results in no alteration of the location, distribution, density, or growth rate of the human population planned for the Region beyond that envisioned by the Regional Plan.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

125. Will the Project include or result in the temporary or permanent displacement of residents? (TRPA 11b)

No. Standard of Significance: Significant temporary or permanent displacement of residents results in a significant impact.

The Project does not require the temporary or permanent displacement of residents and thus creates no impact.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

126. Will the Project affect existing housing, or create a demand for additional housing?

(1) Will the proposal decrease the amount of housing in the Tahoe Region? (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households? (TRPA 12a)

No. Standard of Significance: See the analyses for Question 121, which addresses CEQA checklist item XIIIa and concludes the level of impact to housing demand is less than significant and that no existing housing is removed by the Project.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

127. Will the Project result in the loss of housing for lower-income and very-low-income households? (TRPA 12b)

No. Standard of Significance: See the analyses for Question 121, which addresses CEQA checklist item XIIIa and concludes the level of impact to housing availability, affordable, low-income or otherwise, is less than significant and that no existing housing is removed by the Project.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.14 Public Services

This section presents the analyses for potential impacts to public services. Table 37 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 37

Public Services

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
128. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?		X		
Police protection?		X		
Schools?			X	
Parks?			X	
Other public facilities? (CEQA XIVa)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?				

129. Fire protection? (TRPA 14a)		**X**		
130. Police protection? (TRPA 14b)		**X**		
131. Schools? (TRPA 14c)				**X**
132. Parks or other recreational facilities? (TRPA 14d)				**X**
133. Maintenance of public facilities, including roads? (TRPA 14e)				**X**
134. Other governmental services? (TRPA 14f)				**X**

3.2.14.1 Environmental Setting

Law Enforcement. Placer County Sheriff's Department (PCSD) provides law enforcement, code enforcement, police, paramedic and fire dispatch and traffic patrol for the project area and vicinity. The North Tahoe Substation is located at 2501 North Lake Boulevard in Tahoe City, California. In 2010, the PCSD had a staff of 43 deputies and professional staff. Services are provided 24 hours daily and 365 days a year (*Placer County Sheriff's Office 2010 annual Repor*t – Placer County 2010).

Fire Protection. Fire protection services in the project area and vicinity are provided primarily the North Tahoe Fire Protection District (NTFPD). Depending on the initial location of the fire and mutual aid agreements, wildfire suppression in the project area or vicinity is also provided by Calfire or the LTBMU. A MOU between these agencies provides mutual aid and assistance to suppress wildfires and protect structures. Initial wildfire suppression responsibilities are divided into three categories based on land ownership or MOUs: Local Responsibility Areas (LRAs) include the County areas, State Responsibility Areas (SRAs) include State lands, and Federal Responsibility Areas (FRAs) include LTBMU lands. Section 3.2.8.of the IS/IEC provides additional information concerning NTFDP, Calfire, and the Conservancy and LTBMU fire protection programs.

Schools. The Project lies within the Tahoe Truckee Joint Unified School District, which provides for five (5) elementary schools, one (1) middle school, three (3) high schools, and two (2) alternative schools. The TTUSD serves less than 4000 students in California's Placer, Nevada and El Dorado Counties. District boundaries stretch from Hobart Mills, eight miles north of Truckee to Emerald Bay near South Lake Tahoe and from Cisco Grove, 20 miles to the west to Floriston, 15 miles to the east (http://www.ttusd.org, accessed February 29, 2012).

North Tahoe High School at 2945 Polaris Road in Tahoe City, California is within one (1) mile of the project area to the west of the shared-use trail entrance at SR 28 and Dollar Drive.

Plan Area Statement Permissible Public Service Uses. PAS 012 (North Tahoe High School) permissible public service uses include: churches; cultural facilities; pipelines and power transmission; public utility centers; transmission and receiving facilities; transportation routes; cemeteries; membership organizations; schools, kindergarten through secondary; transit stations and terminals; and publicly owned assembly and entertainment.

PAS 013 (Watson Creek) permissible public service uses include: transmission and receiving facilities and pipelines and power transmission; and local public health and safety facilities.

PAS 009B (Dollar Hill) permissible public service uses include: cemeteries, churches, cultural facilities, day care centers/pre-schools, government offices, local assembly and entertainment, local post office, local public health and safety facilities, membership organizations, publicly owned assembly and entertainment, public utility centers, schools - kindergarten through secondary, social service organizations, pipelines and power transmission, transit stations and terminals, transportation routes, and transmission and receiving facilities.

Placer County General Plan. *Placer County General Plan* Section 4 – Public Facilities and Services includes the goals, policies and implementation programs specific to water supply and delivery, law enforcement, fire protection services, schools and facilities along public roadways. Section 5 – Recreational and Cultural Resources includes the goals, policies and implementation programs specific to public recreation and parks.

3.2.14.2 Environmental Analysis and Mitigation Measures

128. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection? Police protection? Schools? Parks? Other public facilities? (CEQA XIVa)

Standard of Significance: A significant impact results to governmental and public services if the Project causes an increase demand for personnel, equipment or infrastructure beyond that planned by public service entities, the TRPA Regional Plan or Placer County General Plan.

Fire and Police Protection Services. Demand for fire protection could increase during Project construction. Construction equipment operation potentially increases fire risk, particularly in areas of brush or other ground-level fuel. Mitigation measure HAZ-1 (see Question 77 for description) requires the development and implementation of Fire Suppression and Management Provisions to avoid potential of construction-related fire events. The provisions include fire precaution, pre-suppression and suppression measures and includes requirements for on-site provision of equipment devices such as spark arrestors and fire extinguishers. The County will consult with NTFPD to ensure adequacy and provisions for appropriate contact information.

Trail construction along roadways requires lane closures along SR 28 and some neighborhood roadways but requires no full road closures, allowing for continued emergency vehicle and general circulation during construction. Lane closures, particularly on SR 28 could cause short-term traffic delays that could affect emergency response times. To coordinate construction activities and implementation of traffic control measures with emergency service personnel, mitigation measures PS-1 and TRANS-1 will be implemented to allow for continued emergency vehicle access and general circulation during construction and avoidance of potential impacts. This coordination will direct provisions of the Traffic Control Plan required for TRPA and County permits to maintain adequate circulation and access.

Demand for police protection will remain at existing levels during trail operation. Research results that confirm crime rates do not rise after construction of trails; indeed some criminal activity such as vandalism and unpermitted camping/campfires will reduce with increased presence of general trail users (http://www.railstotrails.org/resources/documents/resourcedocs/tgcsafecomm.pdf). Demand for fire

response to emergencies involving trail users may increase following trail operation given anticipated increases to use of the trail corridor. While design of the shared-use trail width (i.e., minimum of 10 feet) allows emergency vehicles to pass and the design load allows vehicles up to 10,000 pounds on the asphalt concrete and bridge sections, the NTFPD has indicated that their emergency response vehicles are not designed to utilize the shared-use trail for access to injured users. As such, NTFPD responders to the shared-use trail corridor access accident sites on foot, carrying necessary emergency equipment up to 1 mile from their emergency response vehicles, parked at trailhead access points. The OMMS (Appendix F) specifically defines emergency vehicle access for fire and law enforcement response at trail crossings with major roadways. The Project improves access to generally undeveloped forest areas. The ability to use the shared-use trail for access allows these service providers to respond to incidents within response time goals.

The PCSD indicate the Project will not impact staffing or access (Lt Weaver with PCSD, personal communication, February 29, 2012).

Improved and unimproved unpaved trails exist in the project area and are used by local residents as well as transients. The Project retains these trails, applies BMPs in some cases and improves linkage to existing trail use, improving user visibility and decreasing the desirability of conducting unlawful acts. The County will provide fire and law enforcement access control of the bollard system. The Project warrants neither new fire protection facilities nor alterations to existing fire protection facilities.

Schools. The Project makes a connection to existing unpaved trails that link to North Tahoe High School, but does not include new construction or create long-term effects along access roadways to the high school. Through implementation of a key element in the North Tahoe bicycle network, improved connectivity will exist for students getting to school.

Recreation Areas. The Project makes or improves connections to recreational facilities that include: tennis courts, a softball field, a soccer field, a cross-country ski center, day use areas, and riding and hiking trails. Connection improves non-auto access for a wide diversity of users, reducing the demand for parking to these facilities. Coordination with park managers about construction scheduling will avoid disruption of Bijou Creek State Park use during construction.

Other Public Services. Project maintenance requirements increase the need for some government services. The Operations Maintenance and Management Strategy (OMMS - Appendix F) identifies increased maintenance related to trail surfaces, other facilities (e.g. fences, interpretive and directional signage), restoration planting and other revegetation. This includes maintenance activities such as sweeping the trail and repairing snow damage as well as periodic activities such as asphalt concrete sealing. The County, as lead agency, for permitting and constructing project, maintains the responsibility for these activities until Project completion at which time the Project shall be transferred to an agency that operates similar type facilities in the north shore area of Lake Tahoe. The Project area is located within the jurisdiction of the North Tahoe Public Utility District (NTPUD) who operates and manages other multiuse trail facilities within their district boundaries. From a continuity and resource perspective, the NTPUD would be the logical lead agency for taking on the role of operating and maintaining the completed facility and carry out the OMMS.

Other shared-use trail management needs include user controls and law enforcement. User controls to keep trail users on the protective surface and away from areas of restoration include landscaping with native plants, signage, boulders and fencing. The Operator, as outlined in the OMMS in Appendix F will monitor trail use and employ adaptive management strategies as necessary to meet restoration requirements. As presented in other sections, law enforcement needs related to trail users will not

substantially increase; crime rates on trails tend to mirror that in the surrounding community while increased users displace illegal activity that requires isolation to flourish.

The Project proposal relies on source control and infiltration for stormwater treatment along the shared-use trail alignment, reducing government maintenance services for these facilities. Site constraints at 13 areas, as indicated on Plan Sheets in Appendix C, may require collection of surface flow and culvert conveyance under the trail. No effect on existing County stormwater infrastructure is expected.

Final engineering plans for drainage at the SR 28 crossing will coordinate with Caltrans to avoid significant effects to Caltrans drainage strategies for the right-of-way. The trail crossing will not increase runoff volumes to existing systems but may alter flow pathways.

Current operation plans do not include snow removal from the trail, although design of trail surfaces and related facilities allows this to occur should future conditions warrant it. If snow removal does occur on the trail, clearing on a 10-foot wide path requires different equipment than roadway plows, but will not drive the need for new government facilities for storage or maintenance.

In summary, the Project creates no long-term increase in public services that could drive a need for new facilities; thus the level of impact is less than significant. The Project creates temporary effects during construction activities that are reduced to a level of less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 77 and 142 for description):

PS-1. Law Enforcement and Fire Protection

Prior to construction, the contractor shall provide a construction schedule for use by public service agencies. This schedule shall outline the location of the construction, types of activities to occur, and the location of anticipated traffic delays or hazards. It shall identify a point of contact within the construction team to inform law enforcement and fire protection personnel of emergency actions and traffic control measures within or near the active construction corridor and communicate in advance changes to these measures or their location.

HAZ-1. Fire Suppression and Management Provisions

TRANS-1. Traffic Control Plan

129. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: fire protection? (TRPA 14a)

No, with mitigation Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to fire protection services after mitigation. The Project does not reduce access, response times or other performance objectives for fire protection.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 77, 128 and 142 for descriptions):

PS-1. Law Enforcement and Fire Protection

HAZ-1. Fire Suppression and Management Provisions

TRANS-1. Traffic Control Plan

130. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: police protection? (TRPA 14b)

No, with mitigation Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to police protection services after mitigation. The Project does not reduce access, response times or other performance objectives for police protection.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 77, 128 and 142 for descriptions):

PS-1. Law Enforcement and Fire Protection

HAZ-1. Fire Suppression and Management Provisions

TRANS-1. Traffic Control Plan

131. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: schools? (TRPA 14c)

No. Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to schools. The Project maintains acceptable service ratios and other performance objectives for schools.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

132. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: parks or other recreational facilities? (TRPA 14d)

No. Standard of Significance: See analysis for Question 128, which addresses CEQA checklist item XIVa and concludes that the Project has a less than significant impact to parks or other recreational facilities. The Project improves access to recreational facilities.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

133. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services in maintenance of public facilities, including roads? (TRPA 14e)

No. Standard of Significance: If the Project creates new or altered unplanned effects to governmental services in maintenance of roads, a significant impact results.

The Project will be maintained by the trail Operator as designated in the OMMS (Appendix F). The Project's crossing of SR 28 will affect Caltrans snow removal services along SR 28. Snow removal

practices are hard on roadside development, as is evident every spring during snowmelt. Features such as asphalt concrete connections and surface cleaning, fences, railings, signs, and pavement markings frequently sustain damage during snow removal practices and require repair services. These needs are generally addressed in the OMMS (Appendix F). The Project proposal avoids significant impacts to Caltrans snow removal practices and maintenance of SR 28 through installation of a crossing at SR 28 and Dollar Drive that includes a removable pedestrian refuge with delineators designed to be affixed to the pavement each spring and removed each fall, as detailed in Appendix B. Coordination with Caltrans on final design of the SR 28 crossing ensures that facilities located within the Caltrans SR 28 ROW do not create a need for new or altered governmental services related to roadway maintenance.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

134. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services in other governmental services? (TRPA 14f)

No. Standard of Significance: See Questions 128 through 133 (CEQA Checklist item XIVa and TRPA Checklist items 14a through 14e) for analysis of governmental services such as fire protection, police protection, schools, parks, and roads. For other governmental services, such as treatment of stormwater, if the Project creates new or altered unplanned effects to governmental services in maintenance of stormwater systems, a significant impact results.

The Project contributes little to no stormwater runoff to existing Caltrans or County stormwater infrastructure and will not cause runoff to exceed existing system capacities. The Project proposal relies on source control and infiltration for stormwater treatment along the shared-use trail alignment, reducing government maintenance services for these facilities. Site constraints at 13 areas, as indicated on Plan Sheets in Appendix C, may require collection of surface flow and culvert conveyance under the trail. No effect on existing County stormwater infrastructure occurs. The OMMS addresses long-term maintenance needs.

Final engineering plans for drainage at the SR 28 crossing will coordinate with Caltrans to avoid significant effects to Caltrans drainage strategies for the right-of-way. The trail crossing will not increase runoff volumes to existing systems but may alter flow pathways.

Environmental Analysis*: Less than Significant Impact.*

Required Mitigation: **None.**

3.2.15 Recreation

This section presents the analyses for potential impacts to recreation. Table 38 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 38

Recreation

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
135. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (CEQA XVa)			X	
136. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (CEQA XVa)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
137. Create additional demand for recreation facilities? (TRPA 19a)				X
138. Create additional recreation capacity? TRPA 19b)				X
139. Have the potential to create conflicts between recreation uses, either existing or proposed? (TRPA 19c)				X
140. Result in a decrease or loss of public access to any lake, waterway, or public lands? (TRPA 19d)				X

3.2.15.1 Environmental Settings

The project area and nearby communities contain a variety of existing public and private recreational resources, including biking trails and routes, Dollar Reservoir, beaches, youth clubs, single-track trails, parks, recreation center, and a golf course, among others. The Project specifically connects to the following recreation sites:

- Tahoe Cross Country Ski Area;
- Dollar Reservoir;
- TCPUD multi-use trail; and
- North Tahoe High School (through neighborhood roads).

The connection to the TCPUD multi-use trail opens access to Tahoe City, Skylandia Park, Commons Parks and Beach, Burton Creek State Park, Lake Forest Beach (boat ramps and campground), and Tahoe State Park, as well as the other trails from Tahoe City to Squaw Valley and Sugar Point State Park. This connection to the existing trails expands the overall trail system in the North Tahoe area, and is part of the trail system linking the communities between Tahoe City and the North Tahoe Regional Park in Tahoe Vista.

An adequate bicycle or pedestrian transportation system is one that allows users with varying abilities to safely and efficiently travel from origin to destination. A region-wide bikeway system should enable cyclists to bicycle from community to community and destination to destination throughout the region. The Project is a 2.2-mile extension of the existing TCPUD multi-use bike trail that ends near SR 28 and Dollar Drive that will one day connect Dollar Hill to the North Tahoe Regional Park.

In addition, existing mountain bike routes (trails or roads) and hiking trails in the area include:

- Antone Meadows Loop;
- Cinder Cone Loop;
- Tahoe to Truckee;
- North Tahoe City Loop;
- Burton Creek State Park Trail;
- Tahoe Rim Trail at Tahoe City;
- Tahoe Rim Trail: Tahoe City to Brockway Summit;
- Tahoe Rim Trail: Brockway Summit to Watson Lake; and
- Various unmarked unpaved trails.

Table 39 provides detals on these trails.

Table 39

Access to Area Trails from the Project

Area Trails	Trail Length (mi)	Distance from Trail to Project (mi)	Approximate Trailhead Location
TCPUD Multi-Use Trail (Tahoe City to Dollar Hill)	2.5	Direct Connection	Connects to Project at SR 28
Tahoe City to Squaw Valley	4	3.2	Tahoe City
Tahoe City to Sugar Pine Point State Park	9	3.2	Tahoe City
Tahoe City to Truckee	19	3.2	Tahoe City
Antone Meadows Loop	8.4	0.6	Tahoe Cross Country Ski Area
Cinder Cone Loop	11.9	2.7	Burton Creek State Park
Tahoe to Truckee Trail	17.25	1.3	Tahoe City
North Tahoe City Loop	15.9	2.9	Tahoe City
Burton Creek State Park Trail (hiking)	6.5	2.7	Burton Creek State Park
Tahoe Rim Trail at Tahoe City (hiking)	4	2.7	Morning Glory Way
Tahoe Rim Trail: Brockway Summit to Watson Lake (hiking)	13	3.0	109
Tahoe Rim Trail: Tahoe City to Brockway Summit (hiking)	19.2	2.5	Tahoe City

Source: (tahoesbest.com/biking/bikepath.htm, trails.com, rei.com/guidepost, traillink.com) 2012

3.2.15.2 Environmental Analysis and Mitigation Measures

135. Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (CEQA XVa)

Standard of Significance: A significant impact results if the Project improves access to recreation facilities or public lands used for recreation by numbers sufficient to create new disturbance.

Recreation facilities within and adjacent to the project area include: TCPUD Multi-Use Trail, Tahoe Cross Country Ski Area, Dollar Reservoir, and North Tahoe High School. The Project connects to other trail systems that access the lake and other area recreation facilities and passes through undeveloped land that currently supports unpaved trail use. The potential for indirect effects to these facilities is remote because roads and unpaved trails already access the areas. Providing an access mode that does not require a parking space reduces impacts on these facilities at peak times. Allowing an alternative to the private

auto reduces the pressure on existing parking supply and reduces the potential for unpermitted parking in undeveloped areas. The Project also provides recreation and opens public access and enjoyment of the natural landscape by encouraging more people to access trail areas by improving access near neighborhoods. Additionally, facility features and design, as described in Section 2.6.2 of theIS/IEC, work to keep users on the trail surface and limit indirect impacts on undeveloped land.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

136. Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (CEQA XVb)

Standard of Significance: A significant impact results if the Project requires the construction or expansion of recreational facilities that cause an adverse physical effect on the environment. The TRPA Regional Plan Recreation Element, PASs and Thresholds determine this level of impact significance.

Shared-use trails are an integral part of the transportation system and at Lake Tahoe new projects are reviewed during the TRPA permitting process as transportation facilities. The 1991 U.S. Intermodal Surface Transportation Efficiency Act (ISTEA) required an intermodal approach to transportation planning by requiring that bicycle and pedestrian needs be considered along with other forms of private and public transportation and addressing the interconnectivity of various transportation modes and facilities.

Other sections of this analysis consider potential effects on the environment and conclude construction and operation of the Project avoids significant impacts. The Project restores some existing unpaved trails that are located in environmentally sensitive, and essentially relocates them with the development of the Project, which supports Goal 1, Policy 4 of the TRPA Recreation Element. Goal 2, Policy 2 of the TRPA Recreation Element, which includes the development of bike trails to promote alternative transportation is also supported by the Project.

The Project does not increase use of existing area recreational facilities, but provides alternative access to existing recreational facilities to reduce motorized vehicle access to these facilities. The expansion of existing recreational facilities in the vicinity of the Project does not increase recreational demand and expansion of existing recreational facilities does not occur as a result of this Project.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

137. Will the Project create additional demand for recreation facilities? (TRPA 19a)

No. Standard of Significance: The Project does not create additional recreation demand; it meets existing recreation and transportation needs.

Class 1 shared-use trails like the Project provide long, continuous routes for commuting or recreation trips. When they access destinations like parks and playing fields, they provide options to use of the automobile that influence lifestyle choices for families and individuals. Trails create inexpensive and safe opportunities for outdoor exercise and healthy lifestyles, including the opportunity for people to integrate exercise into their daily activity. Trails also create opportunities for personal interaction, neighborhood socialization, and community unity that can't occur when people are utilizing their cars. Since the Project

provides recreational opportunities and does not increase population, demand for recreation facilities does not result.

Environmental Analysis: *Less than Significant Impact*.

Required Mitigation: **None.**

138. Will the Project create additional recreation capacity? (TRPA 19b)

No. Standard of Significance: Recreation capacity at Lake Tahoe is measured by TRPA with the allocation of Persons at One Time (PAOTs).

Summer day use PAOTs are not assigned to new transportation facilities, such as the Project (TRPA revised Code Subsection 50.8.3.A.1).

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

139. Will the Project have the potential to create conflicts between recreation uses, either existing or proposed? (TRPA 19c)

No. Standard of Significance: Elimination of or decreased viability of an existing or proposed recreation use caused by the construction and operation of the Project constitutes a significant impact.

Recreational conflicts intensify when an increasingly diverse mix of social, cultural, and political interest groups make claim to what they perceive to be their fair share of a public resource. This can be due to perceived dissimilarity of attitudes and values associated to activities of different user groups. Four major factors have the potential to produce conflict when there is social contact between recreational users: activity style, resource specificity, mode of experience, and lifestyle tolerance. The Project proposal promotes shared-use by providing adequate width and acceptable grades capable of allowing different users simultaneous access without conflict. The Project promotes “Share the Trail” and “Yield to Wheels” through interpretive and directional signage as described in Section 2.6.2.8 of the IS/IEC. The Project does not cross through existing designated park or recreational facilities, other than existing unpaved pedestrian and mountain bike trails, but links to existing recreational opportunities such as the TCPUD Multi-Use Trail, Dollar Reservoir, North Tahoe High School, and the Tahoe Cross Country Ski Area.

Some unpaved mountain bike, trails, and pedestrian paths exist through the project area. The Project retains existing unpaved trails identified through surveys and field studies as important neighborhood connectors and retrofits these trails with BMPs in some locations to reduce erosion and other environmental damage. Although the Project retrofits some trails, the continued presence and improvement of unpaved trails outside of SEZs and other sensitive habitats allows for continued hiking and mountain biking activity. While the Project removes some unpaved trails in LCD 1b for land coverage relocation and SEZ and sensitive habitat protection, the Project increases access to other existing trails.

The Project proposal acknowledges that the Conservancy-managed portion of the project area (adjacent to and north of the Dollar reservoir) may be transferred to California State Parks at some point in the future, as studied in the Burton Creek State Park Master Plan (California State Parks 2005). The Master Plan indicates that the Conservancy property will be a logical addition to the public park land because the additional lands will allow the State Parks to develop a comprehensive Road and Trail Plan for the entire

area with better access into the park. Conflict with existing and proposed Park uses is not expected because the Project serves the objectives of this plan.

Trail conflicts can occur when users travel at greatly different speeds. AASHTO guidelines recognize this fact by linking trail widths to both the volume and speed of expected user groups. For the Project, the environmental sensitivity of the Lake Tahoe Region prompted use of the minimum recommended width (10 feet). As a result, the OMMS (Appendix F) bans motorized users with limited exceptions to meet state and federal laws.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

140. Will the Project result in a decrease or loss of public access to any lake, waterway, or public lands? (TRPA 19d)

No. Standard of Significance: A decrease or loss of public access to lakes, waterways or public lands as a result of Project construction and operation constitutes a significant impact.

Project construction results in temporary restricted access to the project area for purposes of public health and safety. Construction of the shared-use trail will not decrease public access to existing proposal outside of the active construction corridor.

Project operation lead to an increase of public access to public lands and to the lake through non-motorized means, thereby supporting TRPA Recreation Threshold R-1. The Project connects with existing bike trails and pathways with connections to Dollar Creek and Dollar Reservoir and with established public access routes to the lake and beach facilities.

The Project does not decrease access to public resources since the proposed shared-use trail creates access. Narrow unpaved trails that provide important neighborhood access and trails that can be maintained with limited environmental impacts are retained to provide access to public lands or waterways. The Project improves access to many miles of existing hiking, mountain biking and other shared-use trails including the TCPUD Multi-Use Trail, Tahoe City to Squaw Valley Bike Trail, Tahoe City to Sugar Pine Point State Park Trail, Tahoe City to Truckee Bike Trail, Antone Meadows Loop Trail, Cinder Cone Loop Trail, Tahoe to Truckee Trail, North Tahoe City Loop, and various hiking trails as shown in Table 39.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.16 Transportation and Traffic (CEQA) and Traffic and Circulation (TRPA)

This section presents the analyses for potential impacts to transportation, traffic and circulation. Table 40 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 40

Transportation, Traffic and Circulation

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
141. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? (CEQA XVIa)			X	
142. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? (CEQA XVIb)		X		
143. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (CEQA XVIc)				X
144. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	

(CEQA XVId)				
145. Result in inadequate emergency access? (CEQA XVIe)		X		
146. Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (CEQA XVIf)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
147. Generation of 200 or more new Daily Vehicle Trip Ends (DVTE)? (TRPA 13a)				X
148. Changes to existing parking facilities, or demand for new parking? (TRPA 13b)				X
149. Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities? (TRPA 13c)				X
150. Alterations to present patterns of circulation or movement of people and/or goods? (TRPA 13d)				X
151. Alterations to waterborne, rail or air traffic? (TRPA 13e)				X
152. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians? (TRPA 13f)				X

3.2.16.1 Environmental Setting

This section presents the present condition for roadways and intersections, transit and bicycle facilities, and regulations regarding transportation and circulation issues and details the transportation and bike trail use data used in the analysis.

Roadway Setting. The roadways studied in the intersection counts, roadway counts, traffic speed study, gap survey and driver sight distance analyses include State Route (SR) 28 and Dollar Drive. Caltrans maintains a count program throughout the state highway network, including along SR 28. The segment that includes the beginning of the project at Dollar Drive extends from Lake Forest Drive on the west to Lardin Way on the east. Project trail usage forecasts and parking estimates also address Fulton Crescent Drive and Old County Road.

SR 28 is a two-lane state highway that is managed and maintained by Caltrans that has a posted speed limit of 45 mph through the project area. Dollar Drive is a two-lane collector roadway with a 25 mph

speed limit. Old County Road is a two-land arterial roadway with a 25 mph speed limit that provides access to Fulton Crescent Drive, an unstriped, two-lane, local residential roadway.

Parking. Some existing recreational trail users within the project area utilize the Tahoe Cross Country Center parking lot, and a number of vehicles park at either the upper end of Old County Road or Fulton Crescent Drive.

Existing Traffic Volumes. Table B in Appendix A presents roadway directional traffic volumes on SR 28 just east of Dollar Drive for the 2011 Labor Day weekend. The busiest traffic day was Sunday, September 4th with a total 2-way traffic volume of 13,796. The busiest hour of traffic activity on Friday and Saturday was in the late afternoon around 4:00 PM, while on Sunday and Monday it occurred in the late morning around 11:30 AM. Traffic volumes. In general, reach relatively high levels on a consistent basis between approximately 10:00 AM and 6:00 PM.

Historical Caltrans Traffic Counts are typically conducted on an annual basis in the summer and adjusted to reflect both average annual and peak month (i.e., August) traffic conditions. Table C in Appendix A shows the counts for the period of 1994 to 2010, the most recent available count data. As shown, traffic volumes, both annual and peak month, increased between 1994 and 2007/2008 and have since been on a slight decline. Overall between 200 and 2010, volumes declined by approximately 9 percent.

Traffic volumes within the Lake Tahoe Basin are evaluated during the summer Friday PM peak because this is generally when peak traffic volumes occur on the roadways. This analysis uses intersection turning movement counts collected during the 2011 Labor Day weekend. Table A in Appendix A presents intersection turning movement volumes observed in September 2nd, 2011, a Friday PM peak period during summer. The peak total volume through the intersection was observed to be 1,013 vehicles.

In addition to the intersection turning movement counts presented, supplemental daily traffic volume and vehicle speed data were collected on July 27th 2011 between 12:48 PM and 1:48 PM using a radar gun to count 100 vehicles in each direction, and August 5th, 2011 between 12:58 PM and 2:03 PM using an automated radar counter observing 1,063 vehicles. The July counts do not include drivers turning into and out of the adjacent streets and driveways, while the August counts include both through traffic on SR 28 as well as vehicles turning onto and off of the highway at nearby intersections. Table B in Appendix A presents the directional traffic counts and speeds.

The July speed study yielded an average speed of 41 mph in the westbound direction with an 85th percentile speed of 45 mph and a maximum speed of 52 mph and an average speed of 43 mph in the eastbound direction with an 85th percentile speed of 48 mph and a maximum speed of 55 mph.

The August speed study indicated an average speed of 37 mph and 38 mpg in the eastbound and westbound directions, respectively, and an 85th percentile speed of 42 mph in both directions.

Gap Survey/Level of Service (LOS). The presence of adequate gaps in the traffic stream to allow trail users to perceive safe crossing opportunities across SR 28 is a very important consideration for the Project proposal. The number of adequate crossing opportunities is a function of the time needed to cross the roadway, the traffic volume and the distribution of traffic activity.

The width of SR 28 just east of Dollar Drive between the fog lines (edge of travel lanes) on each side if the highway is approximately 35 feet. Because of the existing center two-way left turn lane in the project area, a trail user needs to cross the entire roadway, requiring gaps in both directions of traffic. An adequate gap for bicycle/pedestrian crossing at this location is 13 seconds, including a start up time of 3 seconds (per Institute of Transportation Engineers - ITE recommendations) and a walk speed of 3.5 feet

per second (per recent changes to ITE and ADA recommendations). Gap counts were conducted during two busy summer periods: Friday, August 5th, 2011 between 1 PM and 2 PM and on Friday September 2nd between 4 PM and 5 PM. As shown in Table D in Appendix A, August 5th counts observed 23 adequate gaps per hour and September 2nd counts observed 19 adequate gaps per hour. Considering the proportion of randomly-arriving trail users that arrive during periods of adequate gap and the average wait for an adequate gap for the remainder of trail users, during peak hours, trail users are required to wait an average of 77 seconds (1 minute and 17 seconds) for an adequate gap in two-way traffic during August 5th counts and 94 seconds (1 minute and 34 seconds) during the September 2nd counts.

The 2010 edition of the *Highway Capacity Manual* (ITE, 2010) provides LOS criteria for a pedestrian crossing at uncontrolled legs of a Stop sign controlled intersection or at mid-block locations. LOS is a term used to refer to the operating performance of an intersection or roadway. Detailed descriptions of LOS standards for pedestrian crossings established in the *Highway Capacity Manual* are outlined in Table 41. The average delays observed during the Gap Study far exceed the LOS F standard of 45 seconds. This LOS is defined as "*delay exceeds tolerance level, high likelihood of pedestrian risk taking*" (ITE, 2010).

Driver Sight Distance. Driver sight distanced, specifically "stopping sight distance", is a key factor in assessing trail crossings and is the minimum distance align a direction of travel that a driver can observe an object or person in a roadway (e.g., a trail user crossing at-grade), react, and bring the vehicle to a safe stop. This distance varies with speed. With a posted speed limit of 45 mph, such as along SR 28, and observed speeds of 42 to 48 mph, a design speed of 50 mph is appropriate. At this design speed, the Caltrans Highway Design Manual – 6th Edition (Caltrans 2006) indicates that a stopping sight distances of 430 feet is needed at the SR 28/Dollar Drive crossing.

Sight distance measurements consistent with Caltrans methodology were conducted at two locations: just east of the Dollar Drive intersection and approximately 370 feet to the east at the widest point of the painted median formed by the redirect taper for the westbound left turn pocket for Dollar Drive. Because sight distance can differ across the roadway, it was measured both at the north and south edges of the existing pavement. Table E in Appendix A presents existing driver sight distances on SR 28. The minimum sight distance is 640 feet from the location adjacent to Dollar Drive. Staff measured the sight distance for the location 370 feet to the east at 490 feet, which meets the minimum required stopping sight distance. This distance is generally better to the west than to the east where the vertical curve at the crest of Dollar Hill limits the available sight distance.

The length of time (in seconds) that a trail user can perceive oncoming traffic can be estimated based on driver sight distances along with observed speeds. As shown in Table E of Appendix A, a minimum of 13.5 seconds is provided for trail users at the Dollar Drive location looking to the west and 9.1 to 9.9 seconds looking to the east. Because 13.0 seconds is required to cross the entire roadway, trail users at this location are unable to determine if they have adequate time in the westbound traffic stream.

At the location 370 feet to the east there is more than adequate time to observe gaps traffic coming from the west but only 7.0 (south edge of pavement) to 9.5 seconds (north edge of pavement) available to observe traffic coming from the east. At a location midway between Dollar Drive and the 7-11 driveway, time available to observe gaps is a minimum of 16.5 seconds to the west, but only 7.0 seconds to the east. At the three locations studied, adequate sight distance does not exist for trail users to completely cross the roadway.

Table 41

Pedestrian Crossing Level of Service Criteria

Level of Service Description		Control Delay [1]
A	Usually no conflicting traffic	0 to 5 sec/pedestrian
B	Occasionally some delay due to conflicting traffic	5 to 10 sec/pedestrian
C	Delay noticeable to pedestrians, but not inconveniencing	10 to 20 sec/pedestrian
D	Delay noticeable and irritating, increased likelihood of risk taking	20 to 30 sec/pedestrian
E	Delay approaches tolerance level, risk-taking behavior likely	30 to 45 sec/pedestrian
F	Delay exceeds tolerance level, high likelihood of pedestrian risk taking	> 45 sec/pedestrian

Source: Highway Capacity Manual 2010

Note: Control delay may be interpreted as s/pedestrian group if groups of pedestrians were counted as opposed to individual pedestrians

Existing Bicycle and Pedestrian Facilities. Walking and bicycling are critical and valued components to the Lake Tahoe regional transportation system. Tahoe communities and agencies indicate that connected bicycle paths, sidewalks, and transit create a "people-oriented" transportation system that supports neighborhoods, commercial areas, and recreation areas. Promotion of non-auto transportation systems forms the basis of the transportation elements in TRPA planning, including the Environmental Thresholds, Regional Plan, Environmental Improvement Plan, Mobility 2030 (transportation plan), and community plans. The 2010 Lake Tahoe Regional BPMP discusses existing and future facilities and identifies several benefits to improving the bicycle and pedestrian network, such as reducing VMT and GHGs. Other community efforts demonstrate the value of bike trails and pedestrian systems. The 2010 Lake Tahoe Prosperity Plan, a collaborative effort to establish a new economic and environmental vision for the Region, includes development of transportation alternatives (such as completed bike paths) as a priority action item.

Bicycle and pedestrian facilities exist in the Lake Tahoe Region as separated bicycle paths, bicycle lanes on the roadways, and bicycle routes that share right-of-way with motor vehicle traffic. Near the Project area, striped bicycle lanes for one-way bicycle travel on roadways currently exist on portions of SR 28 and on local roadways in Tahoe City. Separated bicycle paths exist adjacent to SR 28 from Tahoe City to Dollar Hill and bicycle routes that share right-of-way with vehicles, as designated by signage, exist on several local and residential roadways in the area. Existing bicycle and pedestrian facilities in the northwestern portion of the Lake Tahoe Basin are shown on Figure 11 of the Lake Tahoe Regional BPMP (http://www.tahoempo.org/documents/bpp/Chapters/2010bpp.pdf).

Regulatory Setting. Numerous transportation-related standards and criteria apply to the project area, reflecting the number of jurisdictions with regulatory authority over transportation conditions. The TRPA/TMPO RTP, also called Mobility 2030, identifies the overall transportation system standards and performance targets applicable to the project area. Mobility 2030 is a long range planning document approved by TMPO that shapes the future of the Lake Tahoe Basin transportation system.

TRPA maintains jurisdiction over aspects of transportation planning in the Lake Tahoe Basin with Caltrans overseeing California's State highway system. Table 42 provides an overview of the transportation circulation standards applicable to the Project.

Table 42

Applicable Transportation, Parking and Circulation Standards

Jurisdiction/ Plan/Policy	Standard/Criteria
Tahoe Regional Planning Compact	The goal of transportation planning shall be: (A) To reduce the dependency on the automobile by making more effective use of existing transportation modes and public transit to move people and goods within the region; and (B) To reduce to the extent feasible air pollution which is caused by motor vehicles.
Mobility 2030: Lake Tahoe Basin RTP (Mobility 2030)	The Goals and Policies of Mobility 2030 reflect the consideration of environmental, social and economic factors in making transportation-related decisions. Specific goals of Mobility 2030 include the following: 1) reduce reliance on the private automobile; 2) provide for alternative modes of transportation; 3) serve the basic transportation needs of the citizens of Lake Tahoe; 4) support the economic base of the region; and 5) minimize adverse impacts on man and the environment.
Federal Planning Guidelines	In 1999, the Lake Tahoe Basin became a federal metropolitan planning organization (MPO). Federal regulations, pertaining to transportation, require that the MPO planning process provide for the consideration of projects and strategies that will: - increase the safety and security of the transportation system for motorized and non-motorized users; - enhance the integration and connectivity of the transportation system, across and between modes, for people and freight; - promote efficient system management and operation; - emphasize the preservation of the existing transportation system.
TRPA Goals and Policies	Establish level of service criteria for various roadway categories and signalized intersections. Level of service criteria during peak periods shall be: - LOS C on rural recreational/scenic roads; - LOS D on rural developed area roads; - LOS D on urban developed area roads; - LOS D for signalized intersections; - LOS E may be acceptable during peak periods in urban areas, not to exceed four hours/day. The policies and objectives of this document also place high priority on constructing pedestrian and bicycle facilities in urbanized areas and encouraging waterborne transportation measures.
TRPA Thresholds	TRPA has nine threshold categories: water quality, air quality, noise, scenic, vegetation, soils, wildlife, recreation, and fisheries. There is no threshold for transportation; however transportation system projects in the Lake Tahoe Basin cannot degrade any of the thresholds. Rather, TRPA must make findings that the proposed projects attain or maintain existing thresholds.

Jurisdiction/ Plan/Policy	Standard/Criteria
TRPA Thresholds: Air Quality	Air Quality has two transportation related standards: VMT and traffic volumes on US Hwy 50. - AQ-5 US Hwy 50 Traffic Volumes – 7% reduction in traffic volume on the US Hwy 50 corridor from 1981 base year values, winter, 4 p.m. to 12 a.m. (25,173 vehicles at the US Hwy 50/Park Ave intersection.) - AQ-7 VMT – 10% reduction in VMT in the Lake Tahoe Basin from 1981 base year values. (1,648,466 VMT for a peak summer day.)
TRPA Code of Ordinances	Adherence to: revised Code Chapter 12 requirements for traffic considerations, including VMT reduction policies and level of service goals for street and highway traffic, and revised Code Chapter 65 requirements for traffic analyses; the Code sections require reducing significant impacts to a less than significant level.
Placer County North Tahoe Area General Plan	The Circulation Element of the North Tahoe Area General Plan provides transportation objectives and policies associated with areas in the Tahoe Basin portion of Placer County outside the existing community plans. The objectives and policies are generally consistent with other applicable plans.
American Association of State Highway and Transportation Officials (AASHTO)	The AASHTO Guide for the Development of Bicycle Facilities specifies design recommendations and standards for the width, horizontal alignment, sight distance, separation distance from roadways, grades, and graded shoulders of trails. Design recommendations and standards are also specified for signage and striping, sight distance, and crossing angles at all location where paths cross a roadway.
Other	Signal warrant criteria as established by the Federal Highway Administration Manual on Uniform Traffic Control Devices.

Source: HBA 2012

3.2.16.2 Environmental Analysis and Mitigation Measures

141. Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? (CEQA XVIa)

Standard of Significance: Project conflicts with applicable plans, ordinances or policies establishing measures of effectiveness for circulation system performance result in a significant impact.

The Project is consistent with existing policies, plans, and programs that encourage the promotion and use of alternative modes of transportation because the Project creates an alternative transportation trail for pedestrians and non-motorized transportation, which supports policies, plans, and programs for alternative transportation, such as those listed in Table 42. The Project creates new opportunities for alternative modes of transportation to result in a less than significant impact to circulation systems.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

142. Would the Project conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? (CEQA XVIb)

Standard of Significance: Conflict with applicable congestion management programs, specifically LOS standards, creates a significant impact to traffic and circulation from the Project.

Tahoe Region Bicycle/Pedestrian Use Model. The Project constructs a Class 1 shared-use trail extending the existing TCPUD Multi-Use Trail at the intersection of SR 28 and Dollar Drive to Fulton Crescent Drive, linking residential neighborhoods to Tahoe City and existing trails along the Truckee River and to Sugar Pine Point State Park. In order to determine potential effects to area roadways, a regional model was used to estimate trail use.

The Tahoe Region Bicycle/Pedestrian Use Model created by LSC Transportation Consultants, Inc. and Alta Planning provides "linked bicycle and pedestrian use level estimation models for travel corridors in the Tahoe Region. The model is based upon observed facility use levels in the Tahoe Region, data regarding the characteristics of individual facility users, as well as demographic and travel data for the Tahoe region" (LSC Transportation Consultants, Inc. 2009).

The usage model requires input regarding trail grade, continuity, maintenance level, recreational value, and congestion to predict the number of users. Comparison of similar, existing trails and input from agency staff determined the input factors. Refer to Appendix D for additional methodology explanations.

Bicycle and Pedestrian Trail Trip Generation. The model calculates trail usage separately for bicyclists and pedestrians, and residents and visitors who bicycle or walk to the trail, and bicyclists and pedestrians who drive to the trail.

This analysis provides two trail usage calculations for the Project: the Peak Location Usage, which is the peak number of users at any one location on the trail, and the usage over the entire shared-use trail corridor. Table A of Appendix D presents the Project usage estimates based on the Tahoe Region Bicycle/Pedestrian Use Model at location of peak demand in the trail corridor. The trail segment north of Country Club Drive near Dollar Reservoir is the point of the trail with the highest forecast usage for bicycle trips. As shown in Table A of Appendix D, the estimated daily trail use levels at this location are 251 one-way bicyclist trips and 90 one-way pedestrian trips. Factoring by the proportion of daily use occurring in the peak hour on existing Tahoe Region trails, the estimated peak hour trail usages at the respective locations are 38 bicyclist trips and 14 pedestrian trips.

The Tahoe Region Bicycle/Pedestrian Use Model provides a formula to estimate the trail usage along the entire corridor as a function of the trail usage at the location of peak usage and the location with the least amount of trail usage, as applied separately for cyclists and pedestrians. The Entire Corridor Usage is calculated using the following formula provided in the Tahoe Region Bicycle and Pedestrian Use Models User Instructions (LSC Transportation Consultants, Inc. 2009):

> Total Corridor Use = Use at Peak Location X ((Total Corridor Length (miles) / Average Trip Length (miles)) X (1 + Ratio of Use at Lowest Location to Use at Peak Location) / 2

Note that this equation uses a regionwide Tahoe Coalition of Recreation Providers (TCORP) one-way trip length of 2.4 miles for bicycling and 1.5 miles for walking, and assumes Ratio of Use at Lowest Location to Use at Peak Location to be 50 percent.

Overall, considering cyclists and pedestrians using portions of the trail that are not the segment with peak use increases the number of cyclists by 31 percent and the number of pedestrians by 52 percent. Table B of Appendix D presents the Project usage estimates based on the Tahoe Region Bicycle/Pedestrian Use Model over the entire trail corridor. Applying these factors yields a total of 273 daily one-way bicycle trips, 130 daily one-way pedestrian trips, 42 peak hour one-way bicycle trips and 20 peak hour one-way pedestrian trips. Best annual use estimates are 48,500 bicyclists and 19,000 pedestrians or 67,500 combined one-way trips.

Vehicle Trip Generation. This analysis considers two components of vehicle trip generation for the Project:

1. Users who drive to the trail - The Tahoe Region Bicycle/Pedestrian Use Model provides an estimate for the number of bicyclists and pedestrians who drive to the trail. The model adjustments, described above, more accurately reflect the character of the proposed trail. The model also provides average vehicle occupancy rates for bicyclists and pedestrians. The average vehicle occupancy rate for bicyclists who drive to the Project is 2.2 persons per vehicle, and the average vehicle occupancy rate for pedestrians is 1.4, as based on the TCORPS 2007 survey of users of Tahoe recreational trails. Vehicle trips are calculated by dividing the number of users who drive to the trail by the vehicle occupancy rates for bicyclists and pedestrians. Table C of Appendix D shows the number of new daily vehicle trip ends generated by the trail, which are 116 drive-to-bike trail users (58 roundtrips) and 28 drive-to-walk trail users (14 roundtrips).

2. Reduction in vehicle traffic associated with mode shift because of trail construction - The Project reduces vehicle trips by providing an alternative transportation mode for people who normally drive to their destination but still increases overall use of the existing trail network. The TCORP survey data indicates that 15 percent of trail users would drive if the surveyed trail did not exist. Vehicle trip reduction is calculated by multiplying the number of trail users by the 15 percent who indicated that they would have otherwise driven, and then dividing by the vehicle occupancy rates for bicyclists and pedestrians. Table C in Appendix D shows daily vehicle trip ends, roundtrips, and parking demand that result from construction of the Project. The Project reduces vehicle trips by 3,893 trips (i.e., 2500 trips for bicyclists and 1393 for pedestrians).

Vehicle Miles of Travel (VMT). This analysis calculates the change in VMT that can be expected with the construction of the Project, using the trip generation and trip reduction numbers from Table D of Appendix D, and average vehicle trip length estimates from the TRPA travel demand model, as documented in Tahoe Region Bicycle and Pedestrian Use Models (October 2009). A vehicle trip length of 2.4 vehicle miles is used for bicyclists, and a vehicle trip length of 1.5 vehicle miles is used for pedestrians. Table D of Appendix D provides the VMT estimates for the Project considering the following factors:

1. VMT associated with the Project will be increased by new trial users driving to the trail. This factor is estimated to increase VMT by 190 per day.

2. Trail users bicycling or walking to the trail and on to a final destination instead of using a vehicle to make the trip will reduce VMT in the vicinity of the Project. VMT reduction associated with this factor is estimated to be 40 over a summer day.

3. VMT will be decreased by existing recreational trail users that will shift from parking at the Tahoe Cross County Center to the proposed parking lot at the trailhead on SR 28, thereby reducing trip length. This factor is calculated to reduce VMT by 33 per day.

Overall, considering the factors pointed out above, the Project results in an increase in VMT of 117 vehicle-miles per day. To put this in context, the most recent estimate of VMT over the course of a summer day throughout the Tahoe Basin is 1,977,794 (TRPA 2010). Comparing the two figures, the Project may increase basin-wide VMT by 0.006 percent.

Average Vehicle Delay/Queuing/LOS. Appendix B presents the potential highway crossing options for the Project as prepared by LSC, Inc. traffic specialists. A crossing at SR 28 near Dollar Drive extends the existing TCPUD multi-use trail to the north. The SR 28 Crossing Options Study looked at the following pedestrian/bicycle options for providing safe and efficient trail user crossings:

- Standard crosswalk striping with signage;
- Crosswalk with the addition of a pedestrian refuge island;
- Additional warning beacons/signage/lighting;
- Pedestrian Hybrid Beacon;
- Full pedestrian/bicycle activated midblock traffic signal; and
- Full signal at SR 28/Dollar Drive with pedestrian crosswalk.

The average delays observed by LSC Inc. staff during the Gap Survey far exceed the LOS F standards of 45 seconds. Conclusions from the Gap Study state that simply striping a crosswalk at the SR 28 and Dollar Drive intersection would not provide adequate crossing conditions for bicyclists and pedestrians during peak summer traffic periods. To address inadequate gap intervals and existing driver sight distances, the Project proposal provides for a mid-block crossing location designed with the following features:

- A marked crosswalk.
- A pedestrian refuge using flexible delineators in accordance with the California Manual on Uniform traffic Control Devices (MUTCD 2012) arranged in an isosceles triangle pattern on either side of the crosswalk. To avoid conflicts with snow removal operations and reflecting that the need for the refuge is greatest during the summer period when trail use and traffic volumes are at their peaks, these delineators are installed during non-winter season only.
- Supplemental advanced warning signs, yield pavement markings with “Yield here to pedestrians” signage and location warning signs.
- Advanced warning signs placed approximately 300 feet in advance of the crosswalk in each direction, in accordance with California MUTCD.
- Supplemental push-button activated Rectangular Rapid Flashing Beacons located in conjunction with the crosswalk location signs (the push-buttons will include appropriate signage instructing users of their operation functions).

Installation of the raised median/pedestrian refuge crossing described above allows for a two-stage crossing with trail users needing to observe gaps in one stream of traffic at a time. Eight (8) seconds is required to cross each travel lane. Southbound trail users will be able to see gaps up to 9.5 seconds, while northbound users will be able to see gaps up to 8.7 seconds. The crossing proposal provides for distances

that adequately enable trail users to judge adequate gaps at this location. Installation of the crossing option for the at-grade crossing of the high-speed, moderate volume, 3-lane section of SR 28 reduces potential impacts to traffic and circulation to a level of less than significant while providing for trail user safety and complying with LOS standards. Given the forecast trail use level (45 total bicyclists and pedestrians per hour in the peak hour, or approximately one crossing group every two minutes) and the calculation that each crossing group blocks traffic for approximately eight (8) seconds, less than significant impacts on traffic delays or LOS will occur.

Construction Traffic. Construction traffic will occur on the roadway network. The heaviest construction period occurs during site grading, resulting in normal daily construction trips for workers to access the site plus construction trips removing cut materials from the project area. If there is no approved location within the Lake Tahoe Basin, excess material will be transported out of the Basin to the north, as specified by TRPA.

This analysis calculates the number of truck trips associated with site grading assuming a maximum of 120-day construction period, based on TRPA grading season from May 1st to October 15th. On average, long haul trucks are capable of carrying 20 cubic yards of material. Table 43 provides the estimated number of trips associated with site grading for the Project.

Table 43

Site Grading Truck Trips

Net Cut Material [1]	Truck Loads [2]	Trips per Day [3]
5,825 cubic yards	291 loads	4-6

Source: HBA 2012

Notes:

1 Approximate amount of net cut material to be hauled off-site. See Table 20 for more detail.

2 Long haul trucks are capable of carrying 20 cubic yards of material.

3 These are two-way trips (includes loaded delivery trip and empty return trip). Trips are based on the number of loads required to haul the material, and the number of work days (120).

The Project generates 4 to 6 daily construction haul trips. Due to the time required for loading, haul truck movements tend to be spread out over an 8-hour construction period. As a result, construction traffic will not degrade roadways or intersection LOS, and therefore, causes no significant short-term impact.

In addition to construction haul trips associated with grading, construction employees will also generate temporary trips. Each worker (10 employees on average) will generate an average of 3 daily trips based on information on employee trips (for employment uses) from the *Institute of Transportation Engineering Trip Generation, 8th Edition.*

To comply with TRPA and Placer County permit requirements, the County or its contractor will prepare a Traffic Control Plan for review and approval by TRPA and Caltrans prior to construction to avoid and minimize potential impacts to circulation and access during construction activities. As mitigation, the Traffic Control Plan (mitigation measure TRANS-1) addresses construction traffic and parking. At a minimum, the plan identifies truck haul routes, traffic control signage, bicycle and pedestrian traffic, restriction of hauling activities to off-peak periods (outside of the hours from 7AM-9AM and 4PM-6PM),

on-site circulation and staging areas, worker parking locations and monitoring of the in-place traffic control to implement traffic control revisions, if necessary. Prior to construction, the County will obtain necessary encroachment and transportation permits.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

TRANS-1. Traffic Control Plan

TRPA and County permit conditions require a traffic control strategy to reduce construction-related effects on roadways and circulation patterns within the construction corridor. The traffic control plan shall address:

- Coordination with affected jurisdictions regarding construction hours and lane closures;
- Emergency service consultation and implementation of an emergency access plan;
- Implementation of TRPA guidelines for construction-related road closures;
- Lane closure and truck hauling limits during peak commute hours to the extent possible;
- Provision of alternate bicycle and pedestrian routes where necessary;
- Provision of temporary parking;
- Location of truck haul routes;
- Traffic control devices;
- Construction signage and lane closure notification in the vicinity of the construction corridor;
- Monitoring of in-place traffic control methods and devices;
- Driveway access maintenance; and
- Onsite circulation and staging areas.

143. Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (CEQA XVIc)

Standard of Significance: If the Project causes a change in air traffic patterns that results in substantial safety risks, a significant impact occurs.

The Project provides a new facility for bicycle and pedestrian transit and does not change air traffic patterns or air traffic.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

144. Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (CEQA XVId)

Standard of Significance: Substantial increases in hazards resulting from the Project proposal or incompatible use of the trail create a significant impact.

The Project has the potential to increase hazards to vehicles, bicycles, and pedestrians at one roadway crossing with limited vehicle sight distance or where the crossing is located after a curve on the downhill direction of the roadway, as described above for Question 142. Shared-use trail grades can also contribute to safety hazards.

The Project crosses SR 28 at Dollar Drive. Installation of the raised median crossing allows for a two-stage crossing with trail users needing to observe gaps in one stream of traffic at a time. Eight seconds is required to cross each travel lane. Southbound trail users are able to see gaps up to 9.5 seconds, while northbound users are able to see gaps up to 8.7 seconds. Adequate distances are provided to enable trail users to judge adequate gaps at this location. Installation of this crossing option for an at-grade crossing on 45-miles per hour, moderate volume, 3-lane section of SR 28 reduces potential hazards to trail users.

Grades on paths should be kept to a minimum and grades greater than 5 percent are undesirable because the ascents are difficult for many users and descents are steep and cause bicyclists to exceed comfortable/safe speeds. Section 2.6.2.2 identifies the grade restrictions and grade lengths from the AASHTO Guide for the Development of Bicycle Facilities to which the Project proposal conforms.

Given the mountainous environment of the project area, the Project contains several trail sections of grade greater than 5 percent, but these sections meet the AASHTO grade restrictions and grade lengths designed to allow safe use. The most extreme grades are 11.07 percent for 30 feet on the shared-use trail section just after the Dollar Creek bridge crossing. The segments are short and within the AASHTO Guidelines.

There are several other descents with grades that range from 5 percent to 7 percent. The Project construction plans shows (Appendix C) that the average sight distance on the descent of the trail is at least 100 feet. The Project proposal provides for adequate bicycle stopping sight distance with grades based on a bicycle speed of 12 mph as follows:

- 5-6%: at least 70 feet for descent and 60 feet for ascent;
- 7%: at least 75 feet for descent and 60 feet for ascent; and
- 8-11%: at least 80 feet for descent and 60 feet for ascent.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

145. Would the Project result in inadequate emergency access? (CEQA XVIe)

Standard of Significance: Inadequate access for emergency responders during Project construction and operations constitutes a significant impact.

Project operations do not result in inadequate emergency vehicle access. Project construction, however, could temporarily affect access to the area without adequate coordination with law enforcement and fire protection agencies. Mitigation measures PS-1 and TRANS-1 outline coordination procedures with law enforcement and fire protection agencies and a traffic control plan, respectively, to ensure that Project construction will not disrupt emergency services. The design accommodates emergency response vehicles needed for trail users at trail crossing locations and neighborhood connectors via removable/collapsible bollards. The trail pavement width is 10 feet and therefore can also accommodate most emergency vehicles, if necessary.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 128 and 142 for descriptions):

PS-1. Law Enforcement and Fire Protection

TRANS-1. Traffic Control Plan

146. Would the Project conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (CEQA XVIf)

Standard of Significance: Inconsistency with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities constitutes a significant impact.

The Project enhances bicycle and pedestrian facilities by providing additional access to north shore residential communities and by providing connections to existing facilities and key destinations.

The Project makes a connection to TART services in Tahoe City and at the SR 28/Dollar Drive intersection, implementing TRPA and County plans that encourage multi-modal connections. If TART service expands in the future, these connections could increase.

The Project crosses a TART bus route, but does not cause a significant impact to transit service.

The study results presented in Appendices A and D conclude that the Project crossing produces minimal vehicle queuing with no measureable increase in average vehicle delay or vehicle LOS capable of affecting transit service. Therefore, the Project's level of impact to transit is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

147. Will the Project result in generation of 200 or more new Daily Vehicle Trip Ends (DVTE)? (TRPA 13a)

No. Standard of Significance: If the Project results in the generation of 200 or more new DVTE, a significant impact results.

The Project will not result in generation of 200 or more new daily vehicle trip ends. Dividing the number of daily drive-to-trail users by the average occupancy and multiplying by two (to reflect that each round-trip generates two DVTE at the project area), bicyclists will generate 78 new DVTE, while pedestrians will generate 39 DVTE, for a total of 117 DVTE. Therefore, no significant impact regarding trip generation occurs. As detailed in Appendix D, the Project also eliminates existing vehicle-trips in the vicinity of the Project by trail users bicycling/walking to the trail and on to their final destination instead of using a vehicle to make the trip. ,

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

148. Will the Project result in changes to existing parking facilities, or demand for new parking? (TRPA 13b)

No. Standard of Significance: Change in use of existing parking facilities that create an unmet demand for new parking as a result of Project operations constitutes a significant impact.

The Project proposes to extend the backbone of the non-auto transportation network in the north shore of Lake Tahoe by connecting existing facilities to desired destinations. Demand for parking at existing parking facilities could increase as a result of increased connections and enhanced network utility. To

address expected parking demand, the Project includes signage to notify users of adjacent on street parking and proposes an option for a new trailhead parking lot at the SR 28/Dollar Drive trail entrance. On street parking exists along Dollar Drive at the SR 28 intersection and on Fabian Way just west of the SR 28 crossing.

Applying the vehicle occupancy factors to the drive-to-trail demand calculations outlined in Question 142 yields a total of 36 vehicles parking at the four shared-use trail access locations over the course of a summer day. Considering the average length of stay, approximately one-third of this parking demand, or 12 vehicles, park in the area at the peak time. The location in which this parking occurs is a function of the proportion of the drive-to-trail users originating from the adjacent neighborhoods compared to those arriving from SR 28 from more remote locations. Based on the proportion of the residences within the study corridor but not within convenient walk/bike access, estimates of 25 percent of the drive-to-trail demand being generated from within the corridor (i.e., residents of the lower Ridgewood Road and Terrace Drive areas) and the remaining 75 percent originating from SR 28 are reasonable, as based on traffic, bicycle, and pedestrian data collected for the Project.

Parking demand is further allocated to access points along the project area (i.e., SR 28 Trailhead, Country Club Drive/Tahoe Cross Country Center, Old County Road and Fulton Crescent Drive) as shown in Table C of Appendix D. Existing use patterns in Tahoe show that shorter more urban trail segments attract few users who drive to use the trail. The trail segments evaluated here match those characteristics. While this is true, some trail users will originate from public recreation facilities such as the existing Tahoe Cross Country Center parking lot, which is typically for winter-use, and will use the parking available in those locations. Up to 21 vehicles associated with existing recreational trail users in the area currently park at the Tahoe Cross Country Center over the course of a summer day (Appendix D). Based on the relative convenience to the various trail options, one-third of the existing parked vehicles (up to seven vehicles) are expected to shift to new trailhead parking at SR 28 if provided, while the other 14 would remain at the Tahoe Cross County Center.

Parking demand studies (Table C of Appendix D) forecast daily up to 16 vehicles to park at existing on street parking near SR 28 and Dollar Drive or the optional SR 28 trailhead parking lot, up to 14 at the existing Tahoe Cross Country Center parking lot, and up to 1 vehicle at any one time to park at the upper end of Old County Road and Fulton Crescent Drive. This is in addition to drivers that currently park at the end of these roadways to access unpaved trails that may choose to continue to park at these informal locations. For example, mountain bikers accessing the existing unpaved trails leading to the west and north from Fulton Crescent Drive can be expected to continue to park at these neighborhood locations.

The number of additional parked cars at the upper end of Old County Road or Fulton Crescent Drive is expected to be minimal because on street parking near SR 28 and Dollar Drive and the optional SR 28 Trailhead parking lot will be more evident and convenient to visitors and residents driving from remote areas and persons interested in exercise tend to prefer their greatest workout (i.e., biking or walking uphill) at the beginning of the exercise period rather than at the end. Additionally, drivers approaching the project area both from the south and from the north on SR 28 will have a shorter drive time to on street parking near SR 28 and Dollar Drive (e.g., Fabian Way) and a new trailhead parking lot than to either upper Old County Road or Fulton Crescent Drive. Additional parking activity along Old County Road or Fulton Crescent Drive is most likely to consist of residents of the lower portions of the Cedar Flat neighborhoods that prefer to drive to the trail to avoid the steep climbs up the residential streets.

Development criteria for access points intended for neighborhood use will de-emphasize their visibility to reduce “drive to” use. While parking along eastern Placer County public streets is legal in most places between May 1 and October 31 and will not be prohibited through this Project proposal, this use can create conflicts with neighbors, including trespassing, littering, sanitary concerns, noise, and off leash dog

activity. The Project proposal relies on use of adaptive management strategies to address these issues for long-term maintenance. These strategies could include (but may not be limited to) increasing outreach concerning respectful use, increased visitation by management personnel, or placement of fencing or trashcans. The OMMS (Appendix F) identifies adaptive management strategies available if parking competition at these sites exceeds forecasts.

If the trailhead parking area at SR 28 and Dollar Drive is not built as part of trail construction, parking on nearby public roads is adequate to meet forecasted parking demand. The OMMS is used to assess parking demand at the SR 28 trailhead. If parking supply is determined to be inadequate or parking creates conflicts with adjacent land uses, management alternatives including the optional trailhead parking facility construction will be pursued by the operator.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

149. Will the Project result in substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities? (TRPA 13c)

No. Standard of Significance: If the Project causes delay which degrades level of service to on roadways to LOS E for more than four hours/ day, impacting vehicles and transit or hinders pedestrian or bicycle travel a significant impact results.

The Project will not result in substantial negative impact upon existing transportation systems but instead enhances and improves bicycle and pedestrian access. For analysis of roadways and transit, see the analyses for Question 142 and Question 146, which conclude that vehicle LOS on roadways is not degraded; therefore, the level of impact to existing transportation systems is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

150. Will the Project result in alterations to present patterns of circulation or movement of people and/or goods? (TRPA 13d)

No. Standard of Significance: If the Project results in an alteration to present patterns so that circulation is substantially disrupted and/or public access cannot be met, a significant impact results.

The Project does not significantly increase vehicle delay due to users on the shared-use trail. The Project crosses SR 28 but potential vehicle delays are avoided and minimized through the Project crossing option. The SR 28 Crossing Options evaluation presented in Appendix B does acknowledge that placing the pedestrian refuge island in the existing two-way left-turn between Dollar Drive and the 7-11 access will shorten the available deceleration and storage for vehicles turning left into 7-11 parking area; however, the effect is less than significant because adequate storage for four to five vehicles will be maintained.

The shared-use trail then follows a route through the open forested area behind existing residential neighborhood and does not cross in front of residential or commercial driveways. Additionally, shared-use trail users are continually moving and do not significantly increase delay or block access for drivers entering or exiting use areas.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

151. Will the Project result in alterations to waterborne, rail or air traffic? (TRPA 13e)

No. Standard of Significance: Alternations to waterborne, rail or air traffic by Project construction or operations that result in service disruptions constitutes a significant impact.

The Project provides a new facility for bicycle and pedestrian traffic and does not change air traffic, waterborne traffic, or rail traffic.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

152. Will the Project result in increase in traffic hazards to motor vehicles, bicyclists, or pedestrians? (TRPA 13f)

No. Standard of Significance: Increases to traffic hazards at trail crossing locations constitutes a significant impact.

See Question 144, which addresses CEQA checklist item XVId and concludes that the level of impact from the Project to traffic hazards to vehicles, bicyclists, and pedestrians is less than significant. The only potential location of traffic hazard is at the trail crossing of SR 28. Considering that adequate safe driver stopping distance is provided and that the design of the crossing is consistent with applicable Caltrans criteria, no significant traffic hazard will result.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

3.2.17 Utilities and Service Systems (CEQA) and Energy and Utilities (TRPA)

This section presents the analysis for potential impacts to utilities, service systems and energy. Table 44 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 44

Utilities, Service Systems and Energy

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
153. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (CEQA XVIIa)				X
154. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (CEQA XVIIb)				X
155. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (CEQA XVIIc)		X		
156. Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed? (CEQA XVIId)				X
157. Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?				X

(CEQA XVIIe)				
158. Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs? (CEQA XVIIf)		X		
159. Comply with federal, state, and local statutes and regulations related to solid waste? (CEQA XVIIg)		X		
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
160. Use of substantial amounts of fuel or energy? (TRPA 15a)				X
161. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? (TRPA 15b)				X
Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:				
162. Power or natural gas? (TRPA 15a)		X		
163. Communication systems? (TRPA 15b)				X
164. Utilize additional water which amount will exceed the maximum permitted capacity of the service provider? (TRPA 15c)				X
165. Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider? (TRPA 15d)				X
166. Storm water drainage? (TRPA 15e)		X		
167. Solid waste and disposal? (TRPA 15f)		X		

3.2.17.1 Environmental Setting

Electricity. Liberty Energy provides electricity services to the project area, and the communities of Coleville, Floriston, Loyalton, Markleville, North Lake Tahoe, Portola, South Lake Tahoe, Topaz Lake, Truckee, Verdi, Walker, and Woodfords, serving over 47,000 customers in California (www.liberty-energy.com/pages/about.html 2012). There are overhead distribution lines along SR 28 within the project area.

Natural Gas. Natural gas service in the Lake Tahoe Basin is provided by Southwest Gas Corporation, which also serves customers in portions of Arizona, Nevada, and portions of northeastern and southeastern California (Southwest Gas Corporation 2009, CNN Money 2009). Southwest Gas Corporation acquires its gas supplies from a variety of sources and has an active program to seek a diversity of supply. The company is the largest distributor of natural gas in the States of Arizona and Nevada, and no shortfalls in natural gas supply are anticipated in the future. Existing underground gas lines are located in the project area along SR 28 ROW.

Communications. The Project area is in the AT&T service area. AT&T provides telecommunications services, including local, long distance, DSL, wireless, data networks, satellite television, and directory, to the Lake Tahoe area. Charter Communications provides cable service to the project area. An existing aerial utility line and utility pole is located along SR 28.

Water and Wastewater Service. North Tahoe Pubic Utility District (NTPUD) provides water and wastewater service to the project area. The District currently serves 5,524 sewer connections and 3,871 water connections. The Project passes through land owned by NTPUD. NTPUD operates the following water facilities: 53.8 miles of gravity lines, three main pumping facilities, three satellite/booster stations, and eight tanks with a capacity of 3,500,000 gallons. In addition, NTPUD operates the following wastewater facilities: 74.8 miles of gravity lines, four main pumping facilities, 14 satellite/booster stations, and a tank at the Dollar Lift Station with a capacity of 6.0 million gallons per day (www.ntpud.org 2012). A sewer line is located along the SR 28 ROW within the project area.

Solid Waste and Disposal. The Placer County Facility Services Department, Environmental Engineering Division administers and manages the countywide solid waste programs. Programs include garbage collection contracts, education and outreach, the Eastern Regional Materials Recovery Facility (MRF), the Household Hazardous Waste Facility, recycling centers, and satellite recycling bins (Placer County 2010). Tahoe Truckee Sierra Disposal Company (TTSD) provides solid waste services in the Project area. Solid waste collected by the TTSD is taken to the Eastern Regional Landfill, Inc. (ERSL) near Truckee, CA, where materials are sorted to meet California's mandatory solid waste diversion requirements. TTSD contracts (ERSL) to conduct the day-to-day operations and maintenance of the MRF. The MRF receives, separates, processes and markets recyclable materials removed from the waste stream. Non-recyclable, non-hazardous solid waste is consolidated and transported to the Lockwood Regional Landfill, a 1,535-acre municipal solid waste facility located in Storey County, NV. TTSD has a 30-year contract (1995-2025) with a 30-year option to dispose of non-hazardous solid waste at the Lockwood Regional Landfill. The landfill does not accept hazardous waste. Lockwood Regional Landfill has a capacity of up to 250 years (Placer County 2008).

3.2.17.2 Environmental Analysis and Mitigation Measures

153. Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? (CEQA XVIIa)

Standard of Significance: Exceedance of wastewater treatment requirements as established by Lahontan constitutes a significant impact.

The Project develops a shared-use trail that does not create population growth, as discussed in Question 121, to increase utility demand. The Project proposes no new housing that could increase resident populations in need of these services and does not propose fixtures or features that require connections to wastewater. The Project does not affect wastewater quantities and creates no impact on wastewater treatment operations, treatment, or capacity.

Environmental Analysis*: No Impact.*

Required Mitigation: **None**.

154. Would the Project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (CEQA XVIIb)

Standard of Significance: Construction of new water or wastewater facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

The Project develops a shared-use trail, and as discussed in Question 121, does not create population growth or increased utility demand. The Project proposal includes no new housing that could increase resident populations in need of these services and does not propose fixtures or features (e.g., restrooms) that require connections to water or wastewater. The Project installs no permanent irrigation, restrooms, or water fountains.

TRPA revised Code Chapter 32 provides regulations for utilities and services. The Project complies with these regulations as no new water or wastewater utilities are required to operate the trail.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

155. Would the Project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? (CEQA XVIIc)

Standard of Significance: Construction of new stormwater drainage facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analysis for Questions 84 and 85, which addresses stormwater drainage capacity and potential impacts to existing drainage patterns and concludes the level of impact to existing or planned stormwater drainage systems is reduced to a level of less than significant by the Project proposal..

The Project largely avoids alterations to existing drainage patterns through location of new coverage over existing unpaved trails wherever possible and a drainage design that relies primarily on sheet flow and infiltration for source control along most of its length. This approach meets requirements for containment of the 20-year, 1-hour storm runoff volume. The basic strategy for drainage from this trail surface is sheet flow and infiltration onto the two-foot wide clear zones that are immediately adjacent to the sides of the shared-use trail. Where the shared-use trail crosses SR 28, the constrained project area limits clear zones and some infiltration capacity. Coordination with County and Caltrans drainage needs at the SR 28 trail crossing will direct final design plans that capture surface runoff collected and convey and discharge to drainage facilities that meets TRPA standards as appropriate.

The Project implements requirements for permanent BMPs as outlined in TRPA revised Code Chapter 60, Lahontan's Basin Plan Chapter 5, and Placer County Code through mitigation measures. Implementation of mitigation measure GEO-5 assures the Project complies with Lahontan NPDES construction permit requirements.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation: (See Questions 57 and 82 for descriptions):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

HYDRO-3. Implement Post-Construction Stormwater Management

156. Would the Project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? (CEQA XVIId)

Standard of Significance: As significant impact occurs if the Project creates a demand in water supply that requires new or expanded entitlements or resources to assure continuation of sufficient water supply to the public.

As described above for Questions 153 and 154, the Project requires no new water service and therefore avoids significant affect on water supplies, entitlements or resources.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

157. Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? (CEQA XVIIe)

Standard of Significance: A significant impact results if the project creates additional demand that prohibits STPUD from meeting existing provider commitments with existing wastewater treatment capacity.

As described above for Questions 153 and 154, the Project requires no new wastewater service.

Environmental Analysis: *No Impact.*

Required Mitigation: **None.**

158. Would the Project be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs? (CEQA XVIIf)

Standard of Significance*:* A significant impact results if the project creates demand for a new landfill or is unable to be served by existing landfills.

Large quantities of trash will not be generated as the project serves as a transportation route with primarily through-travel users. Therefore, new collection equipment, personnel, or infrastructure is not needed. The Project does not require the development of a new landfill. However, a receptacle should be located near the trail to avoid the accumulation of debris along the trail or within the trailhead parking area, if built. The OMMS, attached in Appendix F, establishes the shared-use trail Operator's guidance for the Project, including regular trail maintenance and solid waste management.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

UTIL-1. Install and Manage Trash Receptacles

As a trailhead location, a trash/recycling receptacle shall be located within the parking area, if built, to collect solid waste materials. The location of receptacles within the parking lot shall avoid their misuse as public dumpsters as receptacles shall not be visible from the main roadway. The receptacles shall be wildlife resistant and shall meet County and TRPA standards. The designated Operator shall retain the responsibility for maintenance and management of the shared-use trail and associated facilities, including trash receptacles.

159. Would the Project comply with federal, state, and local statutes and regulations related to solid waste? (CEQA XVIIg)

Standard of Significance: Noncompliance with statutes and regulations regarding solid waste results in a significant impact as defined by TRPA Regional Plan Goals and Policies, the City General Plan and state (Title 14 and 27 CCR) and federal solid waste handling and disposal regulations.

The TTSD, Eastern Regional Materials Recovery Facility, and Lockwood Regional Landfill will receive limited solid waste from operations of the Project and have sufficient capacity to serve the needs.

Existing resource recovery operations provide recycling of various materials, including green waste and construction material, which further reduces the quantity of waste sent to the landfill. TRPA Regional Plan Land Use Element Goal 5, Policy 1 and Public Services Element Goal 3, Policy 2 requires the transport of solid waste outside the Basin in compliance with California state laws. The Project complies with these goals and policies. To reduce littering on the land surrounding the Project, trash/recycling receptacles should be located at the trailhead parking area, if built.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation:

UTIL-1. Install and Manage Trash Receptacles

160. Will the Project result in use of substantial amounts of fuel or energy? (TRPA 15a)

No. Standard of Significance: Use of substantial amounts of fuel or energy by the Project results in a significant impact as defined by TRPA Regional Plan Conservation Element.

Fuel consumption will occur during construction of the Project to power equipment and machinery. This fuel consumption will be temporary and typical of a construction project of this size and nature. Substantial fuel consumption will not occur during regular trail operations. Limited fossil fuels will be consumed during periodic maintenance. Although a flashing pedestrian crossing will connect to existing electrical services, the fixtures will draw only minimal quantities of energy, and will not affect existing service or capacity. No other lighting or connections to electrical or natural gas service is proposed for the Project. As discussed in Question 147, use of the shared-use trail creates a less than significant impact to daily vehicle trips. Reductions in vehicle trips reduce long-term fuel consumption in accordance with TRPA Regional Plan Conservation Element Energy Goal 1, Policy 5 and the goals and policies of the Air Quality Subelement.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

161. Will the Project result in substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? (TRPA 15b)

No. Standard of Significance: A substantial increase in demand upon existing sources of energy or requirement of the development of new sources of energy by the Project results in a significant impact as defined by TRPA Regional Plan Conservation Element.

The Project creates no substantial increase in energy demand and results in no new energy development. Operation and use of the trail reduces daily vehicle trips, which reduces fuel consumption in accordance with TRPA Regional Plan Conservation Element Energy Goal 1, Policy 5 and the goals and policies of the Air Quality Subelement.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

162. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to power or natural gas? (TRPA 15a)

No, with mitigation. Standard of Significance: Substantial alteration to power or natural gas or the requirement for new systems by the Project results in a significant impact as defined by TRPA Regional Plan Conservation Element**.**

Energy infrastructure within the project area consists of electrical lines and natural gas pipelines. Trail construction and operation results in no demand increase for natural gas service or electrical service.

Electricity. Although the Project avoids service poles where feasible, one utility pole may require relocation at SR 28. Relocation of the pole and lines to the nearest feasible location will occur prior to trail construction to avoid construction hazards and service disruption. Since these facilities are above ground, they are easily detected and can be safely relocated in coordination with Liberty Energy, as described in mitigation measure UTIL-2 Construction Coordination.

Some underground facilities may exist within the project area, typically located at the edge of existing pavement buried at a depth of three to four feet. Although it is unlikely they will be encountered during project grading, mitigation measure UTIL-2 serves to prevent damage to these lines. Costs associated with relocation of facilities are the responsibility of the project.

The pedestrian crossing includes safety features such as the supplemental push-button activated Rectangular Rapid Flashing Beacons. Rectangular Rapid Flashing Beacons are typically solar powered and it is unlikely they will need to be wired to a traditional power source. Should a traditional power source be necessary, power could be obtained from the electrical facilities along SR 28.

Natural Gas. Natural gas facilities are located underground, and have the potential to be encountered during grading, particularly near SR 28 where pipelines run along the roadway ROW. Since there is potential to encounter buried pipeline during excavation, construction coordination with utility providers as detailed in mitigation measure UTIL-2 is necessary to prevent potential damage.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigations:

UTIL-2. Construction Coordination

The County and Project contractor shall coordinate with law enforcement and fire protection agencies, utility companies, and businesses and residents within the construction corridor prior to and during construction activities. This coordination shall inform affected parties of the construction schedule and allows development of actions to best maintain access and service in the active project area.

Coordination with utility companies shall follow accepted practice. During final plan preparation, utilities shall be located on the civil plan sheets and confirmed to identify the depth to conduit, pipeline, or other facility and to avoid significant grade changes for maintenance of minimum coverage depths for safety and compliance. If necessary, the Project shall relocate utility infrastructure including underground or aboveground connections. Prior to construction, the contractor shall contact Underground Service Alert (USA) to ensure buried lines are properly located and marked and provide utility companies with an accurate schedule noting when construction occurs in the vicinity of their facilities.

163. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to communication systems? (TRPA 15b)

No. Standard of Significance: The need for new systems or substantial alteration to communication systems as a result of the Project constitutes a significant impact.

Project construction and operation has no effect on demand for communication service as no increase in population, housing, or commercial units results from the Project. The Project includes no new communication facilities. Communication lines within the project area are above ground on existing utility poles and will not be removed.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

164. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to utilize additional water which amount will exceed the maximum permitted capacity of the service provider? (TRPA 15c)

No. Standard of Significance: Construction of new water facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analyses for Questions 153, 154, 156, and 157, which address CEQA checklist items XVIIa, XVIIb, XVIId and XVIIe related to water and wastewater systems and conclude that the Project creates no impacts. The Project creates no demand to water or wastewater systems requiring alterations to NTPUD systems.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

165. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider? (TRPA 15d)

No. Standard of Significance: Construction of new wastewater facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analyses for Questions 153, 154, 156 and 157, which address CEQA checklist items XVIIa, XVIIb, XVIId and XVIIe and conclude that the Project creates no impact to wastewater systems. The Project creates no demand to wastewater systems requiring alterations to NTPUD systems.

Environmental Analysis: *No Impact*.

Required Mitigation: **None.**

166. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to storm water drainage? (TRPA 15e)

No, with mitigation. Standard of Significance: Construction of new stormwater drainage facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

See analysis for Question 155, which addresses CEQA checklist item XVIIc and concludes that the Project creates no impact to wastewater systems after implementation of mitigation measures. The Project primarily addresses stormwater runoff through the design element, which infiltrates runoff from the impervious trail surfaces into clean zones directly adjacent to the Project. Coordination with County and Caltrans drainage needs at the SR 28 trail crossing will direct final design plans that capture surface runoff collected and convey and discharge to drainage facilities that meets TRPA standards as appropriate.

The Project implements requirements for permanent BMPs as outlined in TRPA revised Code Chapter 60, Lahontan's Basin Plan Chapter 5, and Placer County Code through mitigation measures. Implementation of mitigation measure GEO-5 assures the Project complies with Lahontan NPDES construction permit requirements.

Environmental Analysis: *Less than Significant Impact after Mitigation*.

Required Mitigation: (See Question 57 and 82 for descriptions):

GEO-3. Prepare TRPA Erosion and Sediment Control Plan (ESCP)

GEO-5. Conform to NPDES Permit Requirements

GEO-6. Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

GEO-7. Comply with TRPA Grading Period

GEO-8. Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance

HYDRO-1. Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs

HYDRO-2. Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs

HYDRO-3. Implement Post-Construction Stormwater Management

167. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to solid waste and disposal? (TRPA 15f)

No, with mitigation. Standard of Significance: Construction of new solid waste systems or disposal sites constitutes a significant impact.

See analysis for Questions 158 and 159, which address CEQA checklist items XVIIf and XVIIg and conclude that large quantities of trash will not be generated because the Project serves as a transportation route with primarily through-travel users and, the Project does not require the development of new landfills. Therefore, new collection equipment, personnel, or infrastructure is not needed. However, a receptacle should be located near the trail to avoid the accumulation of debris along the trail or within the trailhead parking area, if built. The OMMS, attached in Appendix F, establishes the shared-use trail Operator's guidance for the Project, including regular trail maintenance and solid waste management.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Question 158 for description):

UTIL-1. Install and Manage Trash Receptacle

3.2.18 Mandatory Findings of Significance

This section presents the analyses for mandatory findings of significance. Table 45 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 45

Mandatory Findings of Significance

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
168. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (CEQA XVIIIa)		X		
169. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (CEQA XVIIIb)			X	
170. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (CEQA XVIIIc)				X

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
171. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory? (TRPA 21a)		X		
172. Does the Project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.) (TRPA 21b)				X
173. Does the Project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?) (TRPA 21c)				X
174. Does the Project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly? (TRPA 21d)				X

3.2.18.1 Environmental Analysis and Mitigation Measures

168. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (CEQA XVIIIa)

As discussed in this IS/IEC, the Project may result in potentially significant impacts to SEZ and wetlands, wildlife nests and nursery sites, sensitive habitats and individuals, old growth trees, and historical resources. However, Project facility measures and construction controls and implementation of proposed mitigation measures reduces the effects of such impacts to a point that clearly no significant impacts occur.

Environmental Analysis: *Less than Significant after Mitigation*.

Required Mitigation (See Questions 5, 29, 31, 32, 37, 39 and 47 for descriptions):

SR-1. Tree Protection and Avoidance Measures
BIO-1. Pre-Construction Surveys for Wildlife Species
BIO-2. Dollar Creek Wetland Delineation and Avoidance of Impacts
BIO-3. Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program
BIO-4. Noxious Weed Eradication and Control Program
BIO-5. Avoid Sensitive Plants or Prepare Sensitive Plant Protection Program
CUL-1. Cultural Resource Monitoring Plan

169. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (CEQA XVIIIb)

When the Project's incremental contribution is "cumulatively considerable", the following analysis addresses the environmental resource of concern. The projects that could have a cumulative impact on the resources in the project area when considered incrementally with the Project are referred to as "related projects".

Table 46 identifies a list of past, present, and reasonably foreseeable future projects that have occurred or are planned to occur in the vicinity of the project area. The table identifies the name of the related project, a brief description, and the status. Agencies contacted and documents referenced for development of Table 46 include: Placer County, Conservancy, NTPUD, California State Parks, Caltrans, TRPA and LTBMU.

Table 46

List of Related Projects in Vicinity of the Project Area – North Lake Tahoe Basin Area

Project Title	Project Description	Status
LTBMU Projects		
Carnelian Fuels Reduction and Healthy Forest Restoration Project EA	Combination of mechanical, hand and prescribed burning treatments to reduce surface fuels and conifer density within the WUI surrounding communities of Cedar Flat, Carnelian Bay, Tahoe Vista and Kings Beach. Location in Lake Tahoe Basin Mgt Unit. STATE - California. COUNTY - Placer. LEGAL - Township 16 N. Range 17 E. Sections 8,9,10,16,17,18,19,20, and 21; T 17N. R 6E. Sections 1,2,5 and 6 Project area surrounds communities along the north shore of Lake Tahoe including Cedar Flat, Carnelian Bay, Tahoe Vista, and Kings Beach within the WUI	In Progress– Scoping started 05/17/2010, Objection Period to Legal Notice Closes 04/2012, Decision 05/2012; Implementation 10/2012
North Shore Commercial Outfitter – Guide Special Uses Permit Extension CE	Reissuance of Special Use Permit TAH405001 for 10 years. Location is Placer County's North Shore of Lake Tahoe.	In Progress – Scoping stated 04/01/2010; Decision expected 01/2012; Implementation 02/2012
Restoration of Fire Adapted Ecosystems EA	Project intends to use hand thinning and prescribed fire to restore priority meadows to reduce conifer encroachment, improve native riparian/wetland plant abundance and vigor, and improve habitat for native riparian dependent species. Location in Lake Tahoe Basin Mgt Unit. STATE - California, Nevada. COUNTY - Douglas, Carson City, El Dorado, Placer. Multiple locations throughout El Dorado and Placer Counties, California; and Carson City and Douglas	Developing Proposal; estimated scoping 02/2012; Decision 07/2012; Implementation 09/2012
Sierra Pacific Power line Upgrade EA	Rebuild existing power lines from Truckee to Kings Beach and Kings Beach to Tahoe City. Including an upgrade in capacity from 60kV to 120kV. Relocate most of Kings Beach to Tahoe City line. Location in Lake Tahoe Basin Mgt Unit. STATE - California. COUNTY - Placer. North of Tahoe City along Fiberboard Hwy and Hwy 267 corridor from Kings Beach to Truckee.	Developing Proposal; estimated scoping 01/2012; Decision 01/2013; Implementation 09/2013
Erosion Control Projects	Grants administered by LTBMU to local agencies and organizations to plan and implement erosion control projects.	Approved-Ongoing
Conservancy Projects		
Tahoe City Residential	Water Quality and Watersheds Program project	In Progress
Lakeside Trail Phases 5, 6, 7	Recreation and Public Access Program project	In Progress
Lake Forest SEZ and Wildlife	Water Quality and Watersheds Program project - The Lake Forest Area B SEZ/Habitat Restoration	In Progress - Wood

Table 46

List of Related Projects in Vicinity of the Project Area – North Lake Tahoe Basin Area

Project Title	Project Description	Status
Enhancement	project involves SEZ/channel restoration along portions of Lake Forest and Polaris Creeks to improve water quality and reduce the amount of total suspended solids (TSS) discharged to Lake Tahoe. The project area consists of approximately 70 acres of publicly-owned and residential properties in Placer County, California. The project involves SEZ restoration and wildlife habitat restoration and enhancement within the Lake Forest Glen meadow, along Lake Forest Creek north and south of SR28, and within the Polaris Creek drainage north of SR28. Restoration of the Lake Forest Glen meadow is a key component of erosion control, water quality improvement, and restoration/wildlife enhancement in the project area. The goal for this meadow restoration is the reestablishment of historic flow patterns (from the currently piped and diverted condition) and the return of the meadow to its pre-1960s condition while protecting current infrastructure from project impacts. Drainage patterns will be modified to direct existing flows from Lake Forest Creek across SR28 into the restored meadow area. Stormwater flows will be added to creek flows to restore the functional floodplain and wet meadow areas.	Rodgers has recently completed design of the Lake Forest Creek stream restoration project and is currently providing construction inspection support.
Lake Forest Area B, Phase III	Water Quality and Watershed Program project	In Progress
Lake Forest Area B, Phase II	Water Quality and Watershed Program project	In Progress
Dollar Property	Forest Health Program project	In Progress; Treatment dates 1998-2010

Source: HBA 2012; Placer County 2012 CEQA Projects; LTBMU SOPA; CTC Interactive Project Map (http://tahoe.ca.gov/interactive-project-map.aspx)

Those projects that are currently under construction, approved for construction, or in various stages of formal planning are present and reasonably foreseeable, probable future projects. Some of the projects could be constructed concurrently with the Project during construction in 2013–2015. Project construction planned over a three-year period (2013 through 2015) recognizes the potential for concurrent projects and overlapping project areas.

The present or reasonably foreseeable, probable future projects considered in this cumulative analysis are those projects located in the North Shore of the Lake Tahoe Basin and that have been identified as having potential effects on environmental resources that could also be affected by the Project. Table 46 identifies the related projects in the cumulative effects analysis based on these following criteria:

(1) The project is reasonably foreseeable, because it has an identified lead agency, and has initiated CEQA, TRPA, and/or NEPA environmental review or other regulatory procedures.
(2) The information available defines the project in adequate detail to allow meaningful analysis.
(3) The project could affect resources potentially affected by the Project.

The Carnelian Fuels Reduction and Healthy Forest Restoration project and other related fuels reduction/restoration projects are designed to reduce the risk of high intensity wildfire on National Forest Lands in the urban wildland areas and involve tree removal. A majority of the tree removal required for the project occurs along public rights of way and in forest lands adjacent to residential neighborhoods where opportunities do not exist to relocate the Project to avoid the tree removal. In other areas comprised of large publicly owned parcels, meandering the trail alignment to avoid tree removal reduces effects. The project area adjacent to existing public roadway ROWs and within residential neighborhoods do not currently provide suitable habitat for sensitive wildlife species because of existing disturbance. As such, the Project will not contribute to significant wildlife impacts from other past, current or future projects in the project vicinity (e.g., fuels reduction projects).

The LTBMU erosion control projects and Consevancy funded Lake Forest projects are designed to improve soil stability, provide better stormwater runoff control, and reduce the amount of total suspended solids discharged to Lake Tahoe. The project includes temporary and permanent BMPs designed to protect soils and control runoff from the shared-use trail. As such, the Project will not contribute to significant water quality impacts from other past, current or future projects in the project vicinity.

The Lakeside Trail projects provides for a safe alternative to the use of the private automobile and helps complete a section of the planned trail network serving the Lake Tahoe Basin. The completion of the Project and these other proposed trails improves the overall North Tahoe trail network, making the network more desirable as an alternative to automobiles. This is a beneficial cumulative impact.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

170. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (CEQA XVIIIc)

Standard of Significance: Project environmental effects that cause direct or indirect substantial adverse effects to humans create a significant impact.

As discussed in this IS/IEC, the Project does not adversely affect humans. The Project will positively affect humans through improvement of the non–automobile transportation network, providing safer and more convenient alternatives to the automobile.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

171. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory? (TRPA 21a)

No, with mitigation. Standard of Significance: Refer to the analysis for Question 168, which addresses CEQA checklist Item XVIIIa and concludes the level of impact is less than significant after mitigation.

Environmental Analysis: *Less than Significant Impact after Mitigation.*

Required Mitigation (See Questions 5, 29, 31, 32, 37, 39 and 47 for descriptions):

SR-1. Tree Protection and Avoidance Measures
BIO-1. Pre-Construction Surveys for Wildlife Species
BIO-2. Dollar Creek Wetland Delineation and Avoidance of Impacts
BIO-3. Active Raptor and Migratory Bird Nest Site and Wildlife Nursery Site Protection Program
BIO-4. Noxious Weed Eradication and Control Program
BIO-5. Avoid Sensitive Plants or Prepare Sensitive Plant Protection Program
CUL-1. Cultural Resource Monitoring Plan

172. Does the Project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (TRPA 21b)

No. Standard of Significance: A short-term impact on the environment is one that occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.

IS/IEC analyses identify the relationship between short-term uses of the environment and maintenance and long-term operations of the shared-use trail and project area. The Project creates no short-term or long-term significant and unavoidable impacts. The proposal avoids permanent loss of sensitive habitat and development on sensitive lands and minimizes effects to project area soils and hydrology through location of shared-use trail, revegetation of areas disturbed during construction and implementation of facility features and permanent BMPs.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None**.

173. Does the Project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?) (TRPA 21c)

No. Standard of Significance: Refer to the analysis for Question 169, which addresses CEQA checklist Item XVIIIb and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

174. Does the Project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly? (TRPA 21d)

No. Standard of Significance: Refer to the analysis for Question 170, which addresses CEQA checklist Item XVIIIc and concludes the level of impact is less than significant.

Environmental Analysis: *Less than Significant Impact.*

Required Mitigation: **None.**

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MEMORANDUM

DATE: March 8, 2012

TO: Rob Brueck, HBA

FROM: Gordon Shaw, PE, AICP, LSC

SUBJECT: North Tahoe Dollar Creek Trail Traffic/Bicycle/Pedestrian Data Collection

As part of the environmental analysis for the North Tahoe Dollar Creek Trail project, LSC Transportation Consultants, Inc. conducted a series of counts and observations at the SR 28 crossing location during the peak summer period of 2011 and reviewed available traffic counts. This memo presents the data collected as part of this effort.

Intersection Counts

Table A presents intersection turning movement volumes observed on September 2nd, 2011 (Friday afternoon of Labor Day weekend. The peak hour total volume through the intersection was observed to be 1,013 vehicles.

Roadway Counts

Table B presents roadway directional traffic volumes on SR 28 just east of Dollar Drive, for the 2011 Memorial Day weekend. The busiest traffic day was Sunday, September 4th, with a total 2-way traffic volume of 13,796. The busiest hour of traffic activity on Friday and Saturday was in the late afternoon (around 4:00 PM), while on Sunday and Monday it occurred in the late morning (around 11:30 AM). In general, traffic volumes reach relatively high levels on a consistent basis between approximately 10:00 AM and 6:00 PM.

Historical Caltrans Traffic Counts

Caltrans maintains a count program throughout the state highway network , including along SR 28. The segment that includes the study location extends from Lake Forest Drive on the west to Lardin Way on the east. For the majority of count locations (including this one), counts are typically conducted on an annual basis in the summer and adjusted to reflect both average annual and peak month (August) traffic conditions, though not all locations are counted every year. Table C and Figure A show the counts for the period from 1994 to 2010 (the most recent available). As shown, traffic volumes (both average annual and peak month) increased between 1994 and 2007/2008, and have since been on a slight decline. Overall between 2000 and 2010, volumes declined by approximately 9 percent.

Traffic Speed Study

Two speed surveys were conducted of vehicles on SR 28 just east of Dollar Drive. One was conducted by LSC staff using a radar gun counting 100 vehicles in each direction, on July 27th 2011, between 12:48 PM and 1:48 PM. The staffer was instructed to count only through traffic (not drivers turning into and out of the adjacent streets and driveways). In the westbound direction, this yielded an average speed of 41 mph, and 85th percentile speed of 45 mph, and a maximum speed of 52 mph. In the eastbound direction, the average speed was observed to be 43 mph, the 85th percentile speed was 48 mph, and the maximum speed was 55 mph.

Counts were also conducted on August 5th, 2011 between 12:58 PM and 2:03 PM using an automated radar counter. A total of 1,063 vehicles were observed, including both through traffic on SR 29 as well as vehicles turning onto and off of the highway at nearby intersections. This count indicated an average speed of 37 mph and 38 mph in the eastbound and westbound directions, respectively, and an 85th percentile speed of 42 mph in both directions.

Gap Survey

An important consideration regarding a crossing of SR 28 by the proposed trail is whether adequate gaps are present in the traffic streams to allow trail users to perceive crossing opportunities that would not require drivers to slow or stop. This is a function of the time needed to cross the roadway, the traffic volume, and the distribution of traffic activity.

The width of SR 28 just to the east of Dollar Drive between the fog lines (edge of travel lanes) to the fog line on the east side of the highway is approximately 35 feet. With the existing striped westbound left turn lane, a trail user would need to cross the entire roadway, requiring gaps in both directions. An adequate gap for bicycle/pedestrian crossing at this location is 13 seconds. This includes a start-up time of 3 seconds (per ITE recommendations) and a walk speed of 3.5 feet per second (per recent changes in ITE and ADA recommendations), and assumes that bulb-outs allow trail users to wait just outside the edge of the existing traveled way.

Gap counts were conducted during two busy summer periods: on Friday, August 5th between 1 PM and 2 PM and on Friday September 2nd between 4 PM and 5 PM. As shown in Table D, during the August 5th counts, 23 adequate gaps per hour were observed, while the September 2nd counts identified 19 adequate gaps per hour. Considering the proportion of randomly-arriving trail users that would arrive during periods of adequate gap and the average wait for an adequate gap of the remainder of trail users, during peak hours trail users would be required to wait an average of 77

seconds (1 minute 17 seconds) for an adequate gap in two-way traffic during the August 5th counts, and 94 seconds (1 minute 34 seconds) during the September 2nd counts[1]. The 2010 edition of the *Highway Capacity Manual* (Institute of Transportation Engineers, 2010) provides Level Of Service (LOS) criteria for pedestrian crossings at uncontrolled legs of a Stop sign controlled intersection or at mid-block locations. These average delays would far exceed the LOS F standard of 45 seconds. This LOS is defined as "*delay exceeds tolerance level, high likelihood of pedestrian risk taking.*" (TRB, p 19-2). It can be concluded from this evaluation that simply striping a crosswalk at this location would not provide adequate crossing conditions. Evaluation of more extensive crossing options will be conducted in future tasks, once the trail use estimates have been completed.

Driver Sight Distance

Another key factor in assessing trail crossings is driver sight distance, specifically "stopping sight distance." This is the minimum distance along a direction of travel that a driver can observe an object or person in the roadway (such as someone crossing at-grade), react, and bring the vehicle to a safe stop. This distance varies, of course, with speed. With a posted speed limit of 45 mph and observed 85th percentile speeds of 42 to 48 mph, a design speed of 50 mph is appropriate. At this speed, Table 201.1 of the Caltrans Highway Design Manual (6th Edition, 2006 as updated) indicates that a stopping sight distance of 430 feet is needed.

LSC staff conducted sight distance measurements, consistent with Caltrans methodology. Sight distance was measured at three locations: mid-way between the Dollar Drive intersection and the 7-11 driveway, just east of the Dollar Drive intersection, and approximately 370 feet to the east at the widest point of the painted median formed by the redirect taper for the westbound left turn pocket for Dollar Drive. As sight distance can differ across the roadway, this distance was measured both at the north and south edges of the existing pavement. As shown in Table E, the minimum sight distance was found to be 750 feet for the westernmost location, 640 for the center location, and 490 feet for the easternmost location, all of which meet the minimum required stopping sight distance. This distance is generally better to the west than to the east, where the vertical curve at the crest of Dollar Hill limits the available sight distance.

These sight distances can be used along with the observed speeds to estimate the length of time (in seconds) that a trail users can perceive oncoming traffic, in order to judge a gap of sufficient length to avoid needing to rely on drivers needing to slow or stop. As shown in the right portion of Table E, a minimum of 11.1 seconds would be provided looking west for trail users at the location between Dollar Drive and 7-11, and 10.7 looking east. As 13 seconds would be required to cross the entire roadway, trail users at this location would not be able to determine if they have adequate time in the westbound traffic stream. If a median refuge area were to be provided at this location that would allow a two-stage crossing (with trail users needing to observe a gap in only one traffic stream at a time), 8 seconds would be required to cross each travel lane. The northbound trail user at the south edge of pavement (or the southbound trail user at the south edge of the center median) would only need to judge gaps in one direction at a time, and would have more than adequate sight distance to do so.

At the Dollar Drive location, 13.5 seconds would be provided for trail users looking to the west, but only 9.1 to 9.9 seconds looking to the east. As 13 seconds would be required to cross the entire roadway, trail users at this location would not be able to determine if they have adequate time in the westbound traffic stream.

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[1] To be conservative, it was assumed that no drivers yield to pedestrians waiting at the crossing, at all locations.

At the location 370' to the east of Dollar Drive, there is more than adequate time to observe gaps in the traffic coming from the west, but only 7.0 seconds (at the south edge of pavement) to 9.5 seconds (at the north edge of pavement) available to observe traffic coming from the east. A median refuge could also potentially be provided at this location.

References

ITE Manual of Transportation Engineering Studies, Institution of Transportation Engineers, 2010

HCM 2010: Highway Capacity Manual, Transportation Research Board, 2010

Highway Design Manual, 6th Edition, California Department of Transportation, 2006 as amended

Caltrans Traffic Volume Webpage at http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm

TABLE A: Intersection Count

Intersection: SR28/ Dollar Drive
Location: Tahoe City/ Dollar Hill
North/South Street: Dollar Drive
East/West Street: SR 28

Date: 9/2/2001 Friday
Time: 3:30PM-5:30 PM
Name: Jason
Project #: 117250

	Time Period			NB - Dollar Dr			SB			EB - SR 28			WB		
	Beginning	Ending		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	3:30PM	3:45PM		3	0	9	0	0	0	0	128	18	6	104	0
	3:45PM	4:00PM		9	0	6	0	0	0	0	115	8	5	95	0
	4:00PM	4:15PM		7	0	7	0	0	0	0	112	13	4	83	0
Peak Hour	4:15PM	4:30PM		6	0	8	0	0	0	0	139	9	6	87	0
	4:30PM	4:45PM		5	0	6	0	0	0	0	132	8	9	83	0
	4:45PM	5:00PM		11	0	10	0	0	0	0	117	9	4	102	0
	5:00PM	5:15PM		10	0	5	0	0	0	0	128	11	6	102	0
	5:15PM	5:30PM		6	0	3	0	0	0	0	116	11	3	80	0
	PM Peak Hour Volume			**32**	**0**	**29**	**0**	**0**	**0**	**0**	**516**	**37**	**25**	**374**	**0**
	PM Peak Hour Factor			0.73	--	0.73	--	--	--	--	0.93	0.84	0.69	0.92	--

Source: LSC Transprotation Consultants, Inc.

TABLE B: Directional Traffic Counts -- SR 28 just East of Dollar Drive

15-Min	Westbound				Eastbound				2-Way 15-Minute Total				Total 2-Way Hourly Total			
Period	Fri	Sat	Sun	Mon	Fri	Sat	Sun	Mon	Fri	Sat	Sun	Mon	Fri	Sat	Sun	Mon
Beginning	9/2/2011	9/3/2011	9/4/2011	9/5/2011	9/2/2011	9/3/2011	9/4/2011	9/5/2011	9/2/2011	9/3/2011	9/4/2011	9/5/2011	9/2/2011	9/3/2011	9/4/2011	9/5/2011
0:00	5	10	22	13	11	17	17	25	16	27	39	38	45	116	111	127
0:15	5	9	5	16	10	22	24	12	15	31	29	28	38	115	84	110
0:30	3	4	15	13	8	25	9	12	9	29	24	25	26	104	74	91
0:45	2	8	9	16	3	21	10	20	5	29	19	36	23	87	70	80
1:00	2	8	7	9	5	20	5	12	7	28	12	21	23	81	62	59
1:15	2	9	7	4	3	11	12	5	5	20	19	9	22	67	66	45
1:30	2	3	9	7	4	9	11	7	6	12	20	14	20	60	53	52
1:45	3	13	3	8	2	10	8	9	5	23	11	15	17	55	48	42
2:00	2	6	8	5	4	6	8	2	6	12	16	7	15	34	42	30
2:15	2	3	5	6	1	10	1	6	3	13	6	18	10	26	31	30
2:30	2	4	3	3	1	3	10	1	3	7	13	4	9	21	32	19
2:45	1	1	3	1	2	1	4	2	3	2	7	3	6	16	32	19
3:00	1	3	2	5	0	3	3	2	1	6	5	7	6	19	30	18
3:15	1	2	6	2	1	4	1	3	2	6	7	5	10	17	32	12
3:30	0	1	3	3	0	1	10	1	0	2	13	4	11	15	34	11
3:45	3	3	2	1	2	2	3	1	5	5	5	2	16	23	33	12
4:00	2	2	4	0	1	2	3	1	3	4	7	1	19	27	39	15
4:15	1	1	6	2	2	3	3	2	3	4	9	4	21	24	35	21
4:30	3	3	5	3	2	7	7	2	5	10	12	5	28	22	31	26
4:45	5	4	7	5	3	5	4	0	8	9	11	5	36	24	34	36
5:00	4	1	1	4	1	0	2	3	5	1	3	7	80	25	34	50
5:15	6	1	4	8	2	1	1	1	8	2	5	9	93	37	49	73
5:30	12	10	4	11	3	2	11	4	15	12	15	15	139	61	67	81
5:45	25	9	10	14	7	1	1	5	32	10	11	19	211	85	66	115
6:00	22	7	12	18	16	6	6	12	38	13	18	30	270	118	123	138
6:15	32	13	14	12	22	13	9	5	54	26	23	17	342	155	160	152
6:30	57	19	17	32	30	17	17	17	87	36	34	49	435	201	205	199
6:45	61	26	33	26	30	15	15	14	91	43	48	42	478	237	244	237
7:00	75	32	29	26	35	16	28	18	110	50	55	44	555	294	308	267
7:15	96	41	36	39	51	31	32	25	147	72	68	64	837	349	377	348
7:30	82	44	38	55	46	28	35	32	126	72	73	87	663	387	416	414
7:45	111	59	74	64	59	41	38	28	170	100	112	92	686	449	489	464
8:00	127	54	66	70	65	51	56	35	192	105	124	105	687	513	574	527
8:15	93	65	57	85	80	45	50	45	173	110	107	130	627	577	620	575
8:30	71	85	85	80	80	49	61	57	151	134	146	137	604	628	702	595
8:45	102	99	121	95	69	65	76	60	171	164	197	155	602	679	772	606
9:00	80	98	61	85	52	71	69	68	132	169	170	153	593	707	813	648
9:15	86	87	115	101	64	72	74	49	150	159	189	150	650	724	884	680
9:30	78	104	139	90	71	83	77	58	149	187	216	148	683	773	919	754
9:45	66	107	155	126	76	85	83	71	162	192	238	197	721	797	975	769
10:00	111	105	148	116	78	81	95	69	189	186	241	185	721	835	983	808
10:15	97	107	135	142	86	101	69	82	183	208	224	224	708	875	990	857
10:30	103	132	169	109	84	79	103	74	187	211	272	183	722	872	1069	825
10:45	89	149	148	128	73	81	98	90	162	230	246	216	727	898	1087	876
11:00	101	131	146	157	75	95	102	77	176	226	248	234	769	888	1121	887
11:15	94	115	147	111	103	90	156	81	197	205	303	192	809	921	1175	854
11:30	108	117	160	129	84	120	130	105	192	237	290	234	839	955	1179	926
11:45	102	116	137	138	102	104	143	89	204	220	280	227	830	947	1165	876
12:00	97	131	155	123	119	126	147	78	216	259	302	201	825	986	1135	841
12:15	99	116	145	148	128	121	162	116	227	239	307	264	828	959	1093	847
12:30	83	108	136	95	100	121	140	91	183	229	276	186	798	976	1066	805
12:45	83	130	124	94	116	129	126	96	199	259	250	190	819	951	1050	812
13:00	95	112	126	107	122	120	134	100	217	232	260	207	829	959	1075	825
13:15	102	112	139	117	97	144	141	105	199	256	280	222	857	953	1090	810
13:30	97	95	129	103	107	109	131	90	204	204	260	193	863	955	1105	787
13:45	103	141	158	108	106	126	117	95	209	267	275	203	911	991	1148	786
14:00	101	100	139	100	144	126	138	92	245	226	275	192	945	954	1134	787
14:15	77	107	135	102	128	151	160	97	205	258	295	199	946	954	1150	789
14:30	115	100	170	85	137	140	133	107	252	240	303	192	967	928	1111	792
14:45	103	90	125	100	140	140	136	104	243	230	261	204	970	926	1056	774
15:00	104	100	136	91	142	126	155	103	246	228	291	194	964	942	1051	787
15:15	83	91	116	76	143	141	138	124	226	232	256	202	938	966	1031	782
15:30	100	107	117	76	155	133	131	98	255	240	248	174	957	995	1053	776
15:45	106	100	121	83	131	144	135	114	237	244	256	197	932	1015	1082	788
16:00	91	114	129	101	129	138	142	108	220	250	271	209	936	1029	1117	777
16:15	86	101	133	93	157	160	145	103	245	261	278	196	975	1048	1119	739
16:30	67	118	128	80	143	142	149	106	230	260	277	186	946	1049	1093	738
16:45	110	109	139	81	131	149	152	105	241	256	291	186	926	999	1046	748
17:00	116	106	122	55	143	163	151	116	259	269	273	171	897	960	989	741
17:15	84	101	91	103	132	161	161	92	216	262	252	195	850	926	938	716
17:30	71	101	92	73	139	109	138	121	210	210	230	194	816	890	922	676
17:45	100	98	89	79	112	121	145	102	212	219	234	191	780	874	904	608
18:00	92	102	92	66	120	135	130	80	212	237	222	146	724	823	892	559
18:15	83	105	86	66	101	119	150	67	184	224	236	155	643	736	677	522
18:30	62	71	75	59	90	123	137	67	172	194	212	126	591	873	856	465
18:45	67	76	90	59	69	92	132	73	156	168	222	132	521	621	851	424
19:00	50	68	91	47	61	84	116	62	131	152	207	109	461	563	800	383
19:15	58	89	89	50	74	90	126	48	132	159	215	98	420	529	754	358
19:30	51	61	61	42	51	61	146	43	102	142	207	85	394	504	670	331
19:45	40	52	62	32	56	59	109	59	96	110	171	91	391	476	567	311
20:00	36	63	75	31	54	55	86	53	90	118	161	84	392	491	510	276
20:15	37	50	41	27	69	84	90	44	106	134	131	71	397	487	439	255
20:30	26	53	35	21	71	61	69	44	99	114	104	65	400	445	418	244
20:45	35	46	50	22	62	79	64	34	97	125	114	56	366	417	403	231
21:00	27	40	35	24	66	74	55	39	95	114	90	63	360	376	376	211
21:15	35	38	41	17	74	56	69	43	109	92	110	60	342	354	362	174
21:30	28	27	35	21	37	59	54	31	65	86	89	52	299	346	327	156
21:45	22	41	34	15	69	45	53	21	91	86	87	36	292	332	316	133
22:00	26	35	29	12	51	55	47	14	77	90	76	26	280	305	285	116
22:15	22	34	31	14	44	50	44	28	66	64	75	42	251	275	272	111
22:30	16	37	31	10	40	35	47	19	56	72	78	29	242	251	250	83
22:45	27	31	24	6	52	26	32	15	79	59	56	21	239	233	222	73
23:00	13	25	29	6	35	35	34	13	48	60	63	19	211	210	192	63
23:15	14	19	19	5	43	41	34	9	57	60	53	14				
23:30	22	24	19	9	33	30	31	10	55	54	50	19				
23:45	11	17	16	5	40	19	10	6	51	36	26	11				
Total	5377	5802	6696	5136	6212	6455	7100	4806	11589	12257	13796	9942				

TABLE C: Summary of Caltrans Counts on SR 28

For Segment Between Lake Forest Dr. (MP 1.845) and Lardin Way (MP 4.25)

Year	Average Annual Daily Traffic	Average Daily Traffic in Peak Month (August)
1994	11,400	14,800
1995	11,400	14,800
1996	11,400	14,800
1997	12,200	15,700
1998	12,400	15,500
1999	12,100	15,100
2000	12,100	15,100
2001	12,100	15,100
2002	12,100	15,100
2003	12,100	15,100
2004	12,100	15,100
2005	11,500	14,400
2006	11,300	14,100
2007	11,300	14,100
2008	11,000	13,700
2009	11,000	13,700
2010	11,000	13,700
Change: 2000 to 2010		
Value	-1,100	-1,400
Percent	-9.1%	-9.3%
Average Annual Change: 2000 to 2010		
	-0.9%	-1.0%

Figure A: Historical Caltrans Traffic Counts on SR 28 at Dollar Hill

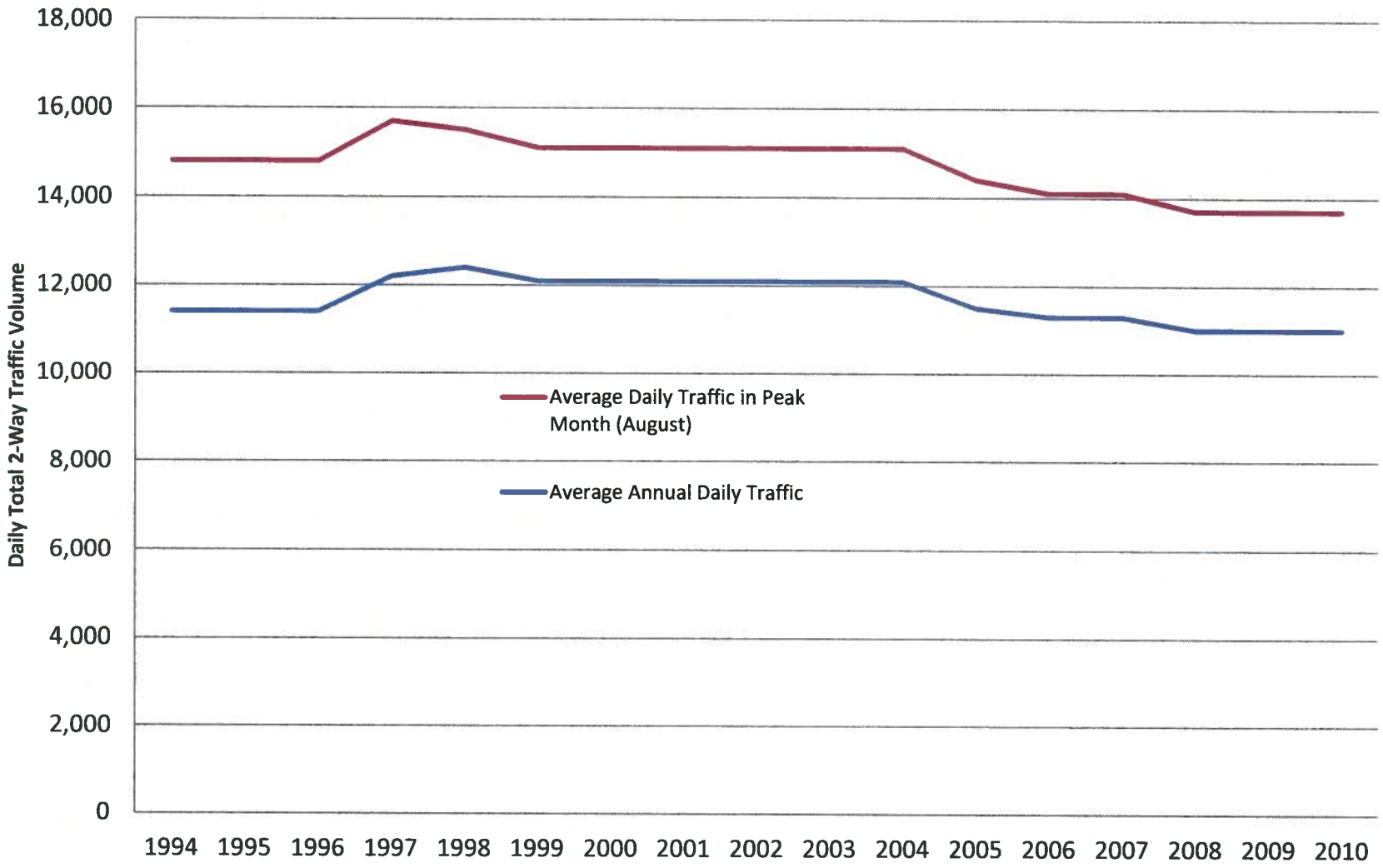

Table D: Gaps in SR 28 Traffic and Pedestrian Crossing LOS

Adequate Gaps Shown in Box

Count Interval			Number of Gaps per Hour by Length of Gap In Seconds															
Date	From	To	2 to 3	4 to 5	6 to 7	8 to 9	10 to 11	12 to 13	14 to 15	16 to 17	18 to 19	20 to 21	22 to 23	24 to 25	26 to 27	28 to 29	>29	2-Way Volume
8/5/2011	1:00PM	2:00PM	126	118	46	28	22	20	10	5	2	1	2	1	0	0	2	988
	Minimum Gap for Crossing Both Directions					13	Seconds											
	# of Adequate Gaps					23	Per Hour											
	Average Time Between Adequate Gaps					2	Minutes		37	Seconds								
	Average Trail User Wait Time for Adequate Gap					77	Seconds											
	Pedestrian LOS					F												
9/2/2011	4:00 PM	5:00 PM	116	81	50	32	21	20	9	4	2	1	0	1	1	0	1	936
	Minimum Gap for Crossing Both Directions					13	Seconds											
	# of Adequate Gaps					19	Per Hour											
	Average Time Between Adequate Gaps					3	Minutes		9	Seconds								
	Average Trail User Wait Time for Adequate Gap					94	Seconds											
	Pedestrian LOS					F												

Source: LSC Transportation Consultants, Inc.

Table E: Existing Sight Distances on SR 28

Location	Stopping Sight Distance (feet)		Estimated Observable Gap Time for Trail Users (Seconds)	
	To the West	To the East	To the West	To the East
Between Dollar Drive and 7-11				
South Edge of Pavement	880	750	12.5	10.7
North Edge of Pavement	780	860	11.1	12.2
East Approach to Dollar Drive				
South Edge of Pavement	950	640	13.5	9.1
North Edge of Pavement	950	695	13.5	9.9
370' East of Dollar Drive (at Widest Point of Striped Median Island)				
South Edge of Pavement	1,230	490	17.5	7.0
North Edge of Pavement	1,160	670	16.5	9.5

Note 1: At an 85th percentile vehicle speed of 48 mph.

Source: LSC Transportation Consultants, Inc.

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MEMORANDUM

Date: November 18, 2011

TO: Rob Brueck, Hauge Brueck Associates

FROM: Gordon Shaw and Jason Briedis, LSC

RE: Dollar Creek Trail – SR 28 Crossing Options

The route of the North Tahoe Dollar Creek Shared Use Trail ("Dollar Creek Trail") is proposed from the eastern terminus of the existing multiuse trail at the top of Dollar Hill to a location near the end of Fulton Crescent Drive (approximately 2.3 miles). A key issue in the evaluation of the project is the crossing of State Route 28 (SR 28) at the southern end of the trail at its connection to the existing TCPUD shared use trail along the south side of the highway. This memo presents our evaluation of potential highway crossing options.

Study Area Characteristics

The Dollar Creek Trail is proposed to cross SR 28 near the top of Dollar Hill. SR 28 at this location has two travels lanes (one for each direction of travel), a striped left-turn lane for turns onto Dollar Drive, and a two-way left-turn lane (TWLTL) for left-turns into the 7-11 parking lot as well as a two-stage outbound left-turn from Dollar Drive. Three locations have been considered for the trail crossing: one across the eastern leg of the SR 28/Dollar Drive intersection, a second approximately 370 feet to the east (the location of the widest portion of the painted median that forms the taper for the left-turn lane) of the 28/Dollar Drive intersection, and a third location roughly half way between the Dollar Drive intersection and the access for the 7-11. The pavement width is consistent at the former two of these locations at approximately 35 feet and the pavement width at the latter location is approximately 55 feet.

This section of SR 28 has a posted speed limit of 45 mph. A speed survey was performed at the proposed crossing location (in accordance with Caltrans standards for such studies) to determine the actual speed of free-flowing traffic. Traffic engineers typically focus on the 85th percentile speed in assessing speed conditions (the speed which is exceeded by 15 percent of all drivers). The 85th percentile speed was observed to be 45 mph for westbound traffic and 48 mph for eastbound traffic.

Traffic counts were conducted along SR 28 over the 2011Labor Day weekend. The average daily traffic volumes over the Friday through Monday count period was 11,900. The peak month ADT as reported by Caltrans is 13,700 for 2010.

Potential Crossing Demand

The potential crossing demand for the Dollar Creek Trail at its southern point is estimated in the *Dollar Creek Trail Use Memorandum,* (LSC Transportation Consultants, Inc., October 2011). As provided in the memo, the peak hour trail crossing volume is 45 bicycles/pedestrians per hour (total of both directions). The preferred crossing location is located approximately 100 feet from bus stops for both directions of travel. It is likely that once constructed, the crossing location will be used by transit riders, therefore increasing the crossing demand.

Sight Distance Considerations

Stopping sight distance and crossing sight distance are important design criteria at pedestrian crossing locations. Adequate stopping sight distance is important both to provide drivers with adequate time to react to the presence of a pedestrian/cyclist in the crosswalk and come to a safe stop. Adequate crossing sight distance is important to provide pedestrians/cyclists with an adequate opportunity to choose a gap in oncoming traffic. The Caltrans Highway Design Manual provides the pertinent stopping sight distance criteria. As is standard practice, a design speed 5 mph over the posted speed is assumed for this analysis. With a posted speed limit of 45 mph, the design speed for sight distance consideration is 50 mph. The base stopping sight distances for a roadway with a 50 mph design speed is 430 feet.

Crossing sight distance is the minimum distance for which a pedestrian waiting to the cross the roadway should be able to see an approaching vehicle and have enough time to safely cross the roadway at walking speed without the vehicle needing to reduce its speed. The ideal safe crossing sight distance is calculated as the distance traveled by a vehicle at the design speed for the amount of time that it takes a pedestrian to cross the roadway. Based on a pedestrian crossing speed of 3.5 feet per second, approximately 900 feet of crossing sight distance should be provided.

This section of SR 28 is characterized by both horizontal and vertical curvature. Sight distance at the proposed crossing locations is restricted for westbound traffic approaching the proposed crossing location by the crest of the vertical curve and vegetation located within the horizontal curve. This limitation in sight distance for westbound vehicles is less at the preferred crossing location versus the locations considered to the east. Sight distance for eastbound traffic approaching the proposed crossing location is adequate for both drivers to slow down for a pedestrian crossing and for pedestrians waiting for an adequate gap in which to cross. As the proposed crossing location is near the top of a hill, sight distance criteria do not need to be reduced for downhill grades.

Potential Trail Crossing Treatments

There are several treatments available to make an at-grade trail crossing location safer and more efficient for trail users. This memo provides a discussion of the following pedestrian/bicycle crossing options and their applicability to the Dollar Creek Trail crossing of SR 28 near Dollar Drive:

- Standard crosswalk striping with signage
- Crosswalk with the addition of a pedestrian refuge island
- Additional warning beacons/signage/lighting

- Pedestrian Hybrid Beacon
- Full pedestrian/bicycle activated midblock traffic signal
- Full signal at SR 28 / Dollar Drive with pedestrian crosswalk

There have been many studies conducted to assess the safety and efficiency of various treatments for midblock or non-intersection and uncontrolled-intersection pedestrian crossing locations. National Cooperative Highway Research Project (NCHRP) Report 562 (herein referred to as the NCHRP Report) provides a discussion and statistical analysis of many different types of crossing treatments. The study discusses the effectiveness of crossing treatments in terms of the percentage of drivers that yield to pedestrians or comply with the treatment. The following presents a discussion of pedestrian crossing options that may be considered for SR 28 at the proposed Dollar Creek Trail Crossing.

Standard Crosswalk with Striping and Signage

A marked crosswalk provides a defined path for pedestrians to cross a roadway. Marked crosswalks can serve several purposes including channelizing pedestrians to cross the road in a single specific location, and making drivers aware of encountering a pedestrian crossing location. There have been several studies conducted to determine the effects that marked crosswalks have on pedestrian safety. The studies conclude that the addition of marked crosswalks does not increase pedestrian safety versus locations with unmarked crosswalks. In many cases, especially in the case of roadways with multiple travel lanes in one direction and/or high-speed roadways (travel speeds greater than 40 mph), the addition of a marked crosswalk can actually decrease pedestrian safety. The recommendations of these studies state that a combination of crossing treatments in addition to a marked crosswalk are preferred for increased pedestrian safety and efficiency.

The California Manual on Uniform Traffic Control Devices (Caltrans, 2010, based on Federal Highway Administration MUTCD, 2003) (California MUTCD) does not specify minimum pedestrian crossing volume warrants for the installation of marked crosswalks at midblock locations. However, Pedestrian and Bicycle Facilities in California: A Technical Reference and Technology Transfer Synthesis for Caltrans Planners and Engineers (prepared for Caltrans by Alta Planning + Design in July 2005) states that "*It is recommended that a minimum of 20 pedestrian crossing per peak hour (or 15 or more elderly and/or child pedestrians) exist at a location before placing a high priority on the installation of a marked crosswalk alone.*" Comparing this figure with the estimated use levels discussed above, a crosswalk is a potential option in this study area.

Providing an uncontrolled at-grade crossing on a high-speed highway is generally not a recommended practice. Therefore, it is not recommended that a marked crosswalk be installed anywhere along SR 28 in the study area without also installing an adequate series of advance warning devices to alert approaching drivers to the presence of the trail crossing location. The standard striping and signing configurations for crossing locations are found in California MUTCD Sections 2B.11, 2C.41 and Figure 3B.15.These standards include the provision of Yield pavement markings, a "Yield Here for Pedestrians" sign (R1-5a), signage marking the location of the crosswalk (sign W11-2 with supplemental plaque W16-7p), and an advance warning sign. The "Yield Here for Pedestrians" signs and pavement markings should be placed 20 feet in advance of the crosswalk for both directions of travel; the pedestrian warning signs (W11-2) should be placed approximately 300 feet in advance of the crosswalk location in both directions.

This treatment should be included with the implementation of any unsignalized crosswalk options discussed in this memo.

Marked Crosswalks with Pedestrian Refuge Islands

Crosswalks may be enhanced by the addition of a median or pedestrian refuge island. The presence of the pedestrian refuge island provides pedestrians with a two-stage crossing, allowing pedestrians to wait for a separate gap in traffic for crossing each direction of traffic. In addition, the use of pedestrian refuge islands shortens the crossing distance and pedestrians' exposure to vehicle traffic. Providing a two-stage crossing also has the advantage of shortening the necessary safe crossing sight distance. With a two-stage crossing of SR 28 for the Dollar Creek Trail, pedestrians/bicyclists would only have to cross one lane of traffic at a time as opposed to three; therefore, the minimum safe crossing sight distance would be approximately 315 feet with a two-stage crossing as opposed to 900 feet without a two-stage crossing. This distance is less than the required stopping sight distance for vehicles and is provided along SR 28 in both directions of travel at the proposed crossing location.

The NCHRP Report states a very wide range of vehicle yielding rates for crosswalks with a pedestrian refuge island. Vehicle yielding rates vary from approximately 5 percent to 75 percent, with an average of 35 percent of drivers yielding to pedestrians at crosswalks with refuge islands. The report found a high correlation between driver yielding rates and speed limits for refuge islands. Roadways with a 25 mph speed limit had a driver compliance rate of 75 percent, while roadways with a 35 mph speed limit had an average compliance rate 15 percent. These data suggest that on moderate to high-speed roadways, pedestrian refuge islands are beneficial, but alone are an insufficient treatment to supplement crosswalks. However, despite the low compliance rate of vehicles yielding to pedestrians in a crosswalk supplemented with refuge islands, refuge islands have the great benefit of reducing crossing distance, as discussed above, and allowing pedestrians to wait for an acceptable gap in only one direction at a time.

A pedestrian island does not necessarily have to be a permanent raised concrete structure. The California MUTCD specifies in section 3G.01 that "An island may be designated pavement markings, channelizing devices, curbs, pavement edges, or other devices." In order to facilitate snow removal during the winter months, it is necessary to design a pedestrian refuge island to be temporary and removable. It is acknowledged that providing a pedestrian refuge in the existing TWLTL between Dollar Drive and the 7-11 access will shorten the available deceleration and storage for vehicles turning left into 7-11. However, adequate storage for four to five vehicles turning left into 7-11 would be maintained. Additionally, adequate TWLTL length would be maintained for the two-stage left-turns exiting Dollar Drive. Therefore it is recommended that a pedestrian refuge island be provided at the Dollar Creek Trail crossing of SR 28 using removable flexible delineators in a portion of the existing TWLTL. Examples and specifications for flexible delineator use are provided in the California MUTCD in Section 3D-101(CA). Five to seven delineator posts arranged in an isosceles triangle (roughly 10 feet wide and 20 feet long) on either side of the crosswalk would be adequate. A keep right symbol sign (R4-7) should be affixed to the post on the point of the triangles. These posts would need to be affixed to the pavement each year, through bolts or using a metal sleeve.

Warning Beacons

The use of warning beacons at crosswalk locations is common throughout the United States. Crosswalk warning beacons consist of a single or series of flashing yellow signals. They can be implemented in numerous configurations (e.g. overhead, side of roadway, with signs, single flasher, alternating flashers, in advance of crossing location, etc.) to address issues specific to the locations where they are being used. Some pedestrian crossing warning beacons operate continuously, while others are pedestrian actuated. Warning beacons at crosswalk locations are most effective if they operate only when a pedestrian is present, as warning beacons that flash continuously quickly become routine and are subconsciously ignored by drivers. Therefore, an active (push-button activated) or passive (no action required by the pedestrian) pedestrian detection system should be used with the warning beacon.

Vehicle yielding rates are generally higher for pedestrian crossing warning beacons with active detection than beacons with passive detection. This is due to imperfections in the passive detection technology, which tend on occasion to produce “false calls.” For pedestrian warning beacons with active (push-button) detection, it is important to provide conspicuous and straightforward signage that provides pedestrians instructions on the proper procedures for use of the warning beacon. The flashing sequence should begin immediately when the device is activated and remain flashing for enough time for vehicles to yield and for the pedestrian to finish his/her crossing maneuver.

Vehicle yielding rates for overhead warning beacons at crosswalks on four-lane roadways were between 30 and 75 percent for push-button activated beacons. The NCHRP Report only conducted studies of pedestrian warning beacons at locations with speed limits of 30 and 35 mph. There was limited statistical correlation between driver compliance rates and speed limits for pedestrian warning beacons. Based on the data it would be difficult to estimate the driver yielding rate at a beacon controlled crosswalk location on a roadway with the higher posted speed of 45 mph present on SR 28 over Dollar Hill.

There are limited guidelines for the installation and use of warning beacons at pedestrian crossings. The California MUTCD specifies that a flashing warning beacon “may be used as emphasis for a midblock crosswalk.” There is no pedestrian crossing volume warrant for the installation of warning beacons. The California MUTCD provides the design standards for warning beacons regarding size and placement within the proper field of view in Section 4K.

A relatively new pedestrian flasher option that is gaining popularity is the Rectangular Rapid Flashing Beacon (RRFB). While the RRFB is not included in the latest edition of the California MUTCD, its use is allowed throughout California as an Interim Approval as of August 10, 2011. RRFBs consist of a panel with two rectangular yellow LED lights that mounts underneath a typical crosswalk warning sign. The beacons can easily mount to a sign pole and can be solar powered. A recent study was conducted for a location where an RRFB system was applied on a high-speed roadway in Oregon. The highway in this case was divided with four lanes. The study reported driver compliance rates of 83 to 87 percent after installation of the device.

It is recommended that the crosswalk location warning signs (W11-2 with W16-7p) for both directions of travel be supplemented with RRFB. This recommendation is based on the speed of traffic on SR 28 (as driver’s willingness to stop tends to decrease with higher speeds), and the higher compliance rate observed with this device. A properly designed beacon system with

active pedestrian activation will alert the approaching drivers that a pedestrian is definitely present and give him/her enough advance warning to yield comfortably.

Pedestrian Hybrid Beacons

Pedestrian hybrid beacons (also known as High intensity Activated crossWalK or HAWK signal) are a new addition to the 2009 version of the federal MUTCD that provide a protected crossing for pedestrians. As of 2011, the Pedestrian Hybrid Beacon is not included in the California MUTCD and is not officially approved for use on California state highways. This section provides a summary of the beacon's operations and applicability to SR 28 in the Lake Tahoe Region, if it were to be included in a future revision to the California MUTCD.

The hybrid beacon is so-named as it combines the warning aspects of a flashing beacon with the regulatory aspects of a traffic signal. The hybrid pedestrian beacon includes a regulatory red indication, but is not as restrictive to vehicles as a full traffic signal. The hybrid beacon signal consists of overhead mounted signal heads for vehicles and pedestrian signal indications. The top row of the signal indications contains two adjacent red displays and below there is a single yellow indication. Hybrid beacons rest in a dark mode with the pedestrian indication displaying "Don't Walk" until a pedestrian activates the beacon. Once activated, the hybrid beacon sequences through four phases:

1. The first phase is a flashing yellow which is to alert drivers that the signal has been activated.
2. This phase is followed by a solid yellow phase.
3. The third phase is a solid red phase, during which a "Walk" phase is displayed to pedestrians.
4. The last phase is a flashing red phase for vehicle traffic and a flashing "Don't Walk" phase for pedestrians.

After this final pedestrian clearance interval, the beacon returns to the dark mode.

The NCHRP report studied hybrid beacons located at both 4-lane and 6-lane roadways. At both sites, the study reported over a 95 percent driver yielding rate, consistent with other pedestrian treatments that include a solid red indication. One of the advantages of the hybrid beacon is the flashing red phase. During this phase, vehicles can proceed through the crosswalk after stopping, if the crosswalk is clear. This condition reduces delay to vehicles significantly compared to a full midblock pedestrian signal, for which vehicles are lawfully required to remain stopped for the full pedestrian clearance interval, even if there are no pedestrians remaining in the crosswalk.

The 2009 edition of the nationwide MUTCD contains pedestrian and vehicle volume warrant guidelines for pedestrian hybrid beacons. The warrant guidelines consider pedestrian volumes, conflicting vehicle volumes, and crosswalk length. There are separate warrant guidelines for low-speed roadways (posted speed limit of 35 mph or less) and high-speed roadways (posted speed limit greater than 35 mph). Both warrants suggest a minimum crossing volume of 20 pedestrians during the peak hour to consider use of a pedestrian hybrid beacon.

A Pedestrian Hybrid Beacon is not recommended for use on SR 28, as the device has not been approved for use in California. Additionally, the use of a pedestrian hybrid beacon on a 3-lane highway with moderate traffic volumes would be excessive. It should be noted, however, that traffic volume counts along SR 28 and the trail usage estimation indicate that the applicable warrant for a Pedestrian Hybrid Beacon is satisfied. Should the device be approved for use in the future, a more detailed analysis could be conducted to determine if it would be suitable for use on SR 28.

Full Pedestrian Traffic Signal

The use of a full traffic signal at a midblock pedestrian crossing location is governed by the Pedestrian Volume Warrant (Warrant 4) presented in the California MUTCD. A full traffic signal at a pedestrian crossing location is a very restrictive traffic control measure and therefore, requires a high pedestrian crossing volume to justify. The MUTCD contains both a 4-hour pedestrian volume warrant and a peak hour pedestrian volume warrant. The 4-hour warrant requires 100 pedestrians for each of any four hours of an average day and the peak hour pedestrian warrant requires 190 pedestrians for any one hour of an average day. The warrant criteria also require that there be fewer than 60 adequate gaps in traffic during the peak pedestrian crossing times.

The minimum pedestrian crossing warrant values far exceed the crossing demand for the Dollar Creek Trail at SR 28. Therefore, the use a full traffic signal is not appropriate at midblock crossing locations on SR 28 and is not recommended.

Signalization of the SR 28/Dollar Drive Intersection

The peak hour signal warrant (CA MUTCD Warrant #3) was applied to the intersection turning movement counts obtained over Labor Day weekend 2011. The Dollar Drive approach to the intersection is wide enough for left and right-turning vehicles to queue separately at the stop sign even though the approach is not striped for two lanes; therefore, per guidance/support specified in the CA MUTCD, the right-turning traffic from Dollar Drive was subtracted from the approach volume. The analysis indicates that traffic volumes at the US 50/Dollar Drive intersection are not high enough to warrant a traffic signal. Additionally, as specified in the previous paragraphs, pedestrian crossing volumes at this intersection are not projected to be great enough to warrant a traffic signal. It is not recommended that a traffic signal be installed at this intersection with the construction of the proposed Dollar Creek Trail.

Conclusions

This section of SR 28 presents a unique situation for pedestrian and bicycle crossing. Not much information is available for at-grade crossings on high-speed, moderate volume, 3-lane highways. It will be necessary to provide a developed crossing beyond a simple painted crosswalk with construction of the proposed Dollar Creek Trail.

This evaluation indicates that it is feasible to provide an at-grade crossing at the preferred crossing location between Dollar Drive and the 7-11 access point. It is recommended that the crossing location be designed with the following features:

- A marked crosswalk

- A pedestrian refuge should be provided in a portion of the existing TWLTL using flexible delineators in accordance with the California MUTCD, arranged in an isosceles triangle pattern on either side of the crosswalk. The delineators should be designed to be affixed to the pavement (using bolts or a metal sleeve in the pavement) each spring, and removed each fall to facilitate snow removal. A keep right symbol sign (R4-7) should be affixed to the post on the point of the triangles.
- The crosswalk should be supplemented with advance warning signs (W11-2), yield pavement markings with “Yield here to pedestrians” signage (R1-5a), and crosswalk location warning signs (W11-2 with W16-7p).
- The advance warning signs should be placed approximately 300 feet in advance of the crosswalk in each direction, in accordance with the California MUTCD.
- The crossing should also be supplemented with push-button activated Rectangular Rapid Flashing Beacons located in conjunction with the crosswalk location signs. The push-buttons should include appropriate signage instructing users of their operation (sign 2B-18(CA)).

THE COUNTY OF PLACER OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

COUNTY OF PLACER

DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLANS FOR

DOLLAR CREEK SHARED-USE TRAIL
TAHOE CITY, CA

PLACER COUNTY APPROVAL:

PLANS ARE ACCEPTED FOR USE AS WORKING DOCUMENTS. UNDISCOVERED ERRORS AND OMISSIONS SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE AS DISCOVERED. THIS APPROVAL EXPIRES THREE (3) YEARS FROM THE APPROVAL DATE UNLESS AN EXTENSION IS APPROVED IN WRITING BY THE COUNTY DEPARTMENT(S) BELOW OR CONSTRUCTION HAS BEEN INITIATED. EXPIRATION WILL RESULT IN A REQUIREMENT TO RESUBMIT THE PLANS FOR PLAN CHECK, PAYMENT OF CURRENT FEES AND COMPLIANCE WITH CURRENT COUNTY STANDARDS.

COMMUNITY DEVELOPMENT RESOURCE AGENCY
ENGINEERING AND SURVEYING DIVISION

SIGNED:_____ TITLE:_____

PRINT NAME:_____ DATE:_____

COMMUNITY DEVELOPMENT/RESOURCE AGENCY
PLANNING DEPARTMENT

SIGNED:_____ TITLE:_____

PRINT NAME:_____ DATE:_____

DEPARTMENT OF HEALTH AND HUMAN SERVICES
ENVIRONMENTAL HEALTH DIVISION

SIGNED:_____ TITLE:_____

PRINT NAME:_____ DATE:_____

DEPARTMENT OF FACILITY SERVICES
PARKS AND GROUNDS DIVISION

SIGNED:_____ TITLE:_____

PRINT NAME:_____ DATE:_____

UTILITY INFORMATION:

WATER AND SEWER

TAHOE CITY PUBLIC
UTILITY DISTRICT
P.O. BOX 5249
TAHOE CITY, CA 96145
(530) 583-3796

WATER AND SEWER

NORTH TAHOE PUBLIC
UTILITY DISTRICT
P.O. BOX 139
TAHOE VISTA, CA 96148
(530) 546-4212

TELEPHONE

ATT
3675 T STREET
ROOM 170
SACRAMENTO, CA 95816

ELECTRIC

LIBERTY ENERGY
P.O. BOX 107
7001 NATIONAL AVENUE
TAHOE VISTA, CA 96148
(530) 546-1736

GAS

SOUTHWEST GAS COMPANY
400 EAGLE STATION
CARSON CITY, NV 89701
(775) 887-2864

CABLE TV

CHARTER COMMUNICATIONS
9335 PROTOTYPE DRIVE
RENO, NV 89521
(775)-350-1290

FIRE

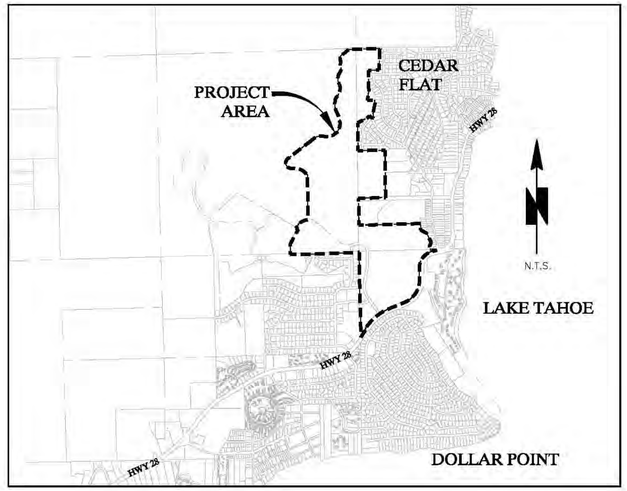
NORTH TAHOE FIRE
PROTECTION DISTRICT
P.O. BOX 5879
TAHOE CITY, CA 96145
(530) 583-6913

NOTES:

THE CONTRACTOR SHALL POSSESS A VALID CALIFORNIA CLASS A CONTRACTORS LICENSE, OR A COMBINATION OF THE FOLLOWING CLASSES: C-8 CONCRETE CONTRACTOR, C-12 EARTHWORK AND PAVING CONTRACTOR, C-13 FENCING CONTRACTOR, C-27 LANDSCAPING CONTRACTOR, C-32 PARKING AND HIGHWAY IMPROVEMENT CONTRACTOR, C-50 REINFORCING STEEL CONTRACTOR, D-42 SIGN INSTALLATION CONTRACTOR, D-59 HYDROSEED SPRAYING CONTRACTOR CLASSES REQUIRED BY THE CATEGORIES AND TYPES OF WORK INCLUDED IN THIS CONTRACT AT THE TIME OF THE BID AWARD. ALL LICENSES SHALL REMAIN IN EFFECT THROUGHOUT THE TERM OF THIS CONTRACT.

THE CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE JULY 2006 EDITION OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, AND STANDARD PLANS, AND APPLICABLE STANDARD DRAWINGS OF THE PLACER COUNTY GENERAL SPECIFICATIONS. IN CASE OF CONFLICT, REFER TO THE PROJECT SPECIAL PROVISIONS FOR ORDER OF PRECEDENCE.

THE COUNTY OF PLACER HAS ENDEAVORED TO SHOW LOCATIONS OF ANY AND ALL EXISTING SURFACE AND SUBSURFACE STRUCTURES. HOWEVER, ACTUAL FIELD CONDITIONS AND LOCATIONS CAN VARY CONSIDERABLY FROM PLAN LOCATIONS. THEREFORE, PLACER COUNTY CANNOT, AND DOES NOT, ASSUME RESPONSIBILITY OF THE EXISTENCE OR LOCATION OF ANY STRUCTURE SUCH AS, BUT NOT LIMITED TO, UTILITIES, PIPELINES AND SEWERS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL AGENCIES AND/OR OWNERS TO VERIFY THIS INFORMATION PRIOR TO AND DURING CONSTRUCTION OF IMPROVEMENTS SHOWN HEREON, AND TO CONTACT THE ENGINEER IN THE EVENT OF ANY SIGNIFICANT DISCREPANCY.



LOCATION MAP
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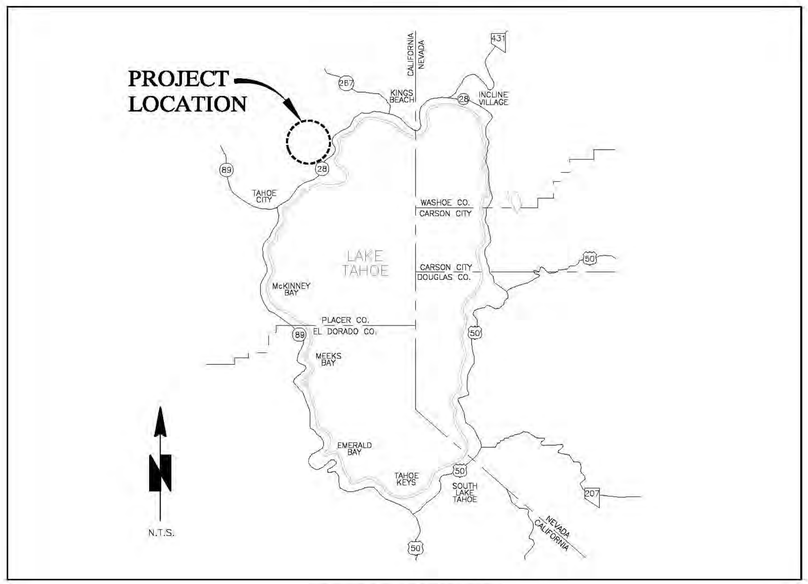

VICINITY MAP
NOT TO SCALE

ENGINEER:

Nichols Consulting Engineers, Chtd.
Engineering & Environmental Services
P.O. Box 1760
Zephyr Cove, NV 89448
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Placer County Public Works Department
7717 North Lake Boulevard
Kings Beach, CA 96143
Ph: (530) 581-6230

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G3	TEMPORARY BMP NOTES
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NOT FOR CONSTRUCTION
DATE: 06-01-2012

Nichols Consulting Engineers, Chtd.
P.O. Box 1760
Zephyr Cove, NV 89448
(775) 588-2505* Fax (775) 588-2607

REVISION #	DESCRIPTION AND SHEET NO.	APPROVED BY:	DATE:

DESIGNED BY: CS DATE: 06/01/2012
DRAWN BY: CKC DATE: 06/01/2012
CHECKED BY: JWN DATE: 03/28/2012

REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER C. SITTLER NO. C 53671 EXP. 06/30/13 CIVIL STATE OF CALIFORNIA

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TAHOE ENGINEERING DIVISION
PO BOX 336, 7717 N. LAKE BLVD (SR 28)
KINGS BEACH, CA 96143
(530) 581-6238 (530) 581-6239 (FAX)

DOLLAR CREEK SHARED-USE TRAIL
TITLE SHEET

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. G1 OF 27

THE COUNTY OF PLACER OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

GENERAL NOTES

1. ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF COUNTY OF PLACER GENERAL SPECIFICATIONS DATED AUGUST, 2005. ALL REFERENCES TO STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SHALL REFER TO THE 2010 EDITION OF THE STANDARD SPECIFICATIONS. ATTENTION IS ALSO DIRECTED TO THE STANDARD DRAWINGS CONTAINED IN THE PLACER COUNTY LAND DEVELOPMENT MANUAL AND THE CURRENT EDITION OF THE CALTRANS STANDARD PLANS, WHICH, WHEN APPLICABLE, ARE INCLUDED IN THESE DRAWINGS AND REFERENCED BY PLATE OR STANDARD PLAN NUMBER.

2. COUNTY, DEPARTMENT OR ENGINEER, AS USED ON THESE PLANS AND NOTES, REFERS TO THE DIRECTOR OF THE PLACER COUNTY DEPARTMENT OF PUBLIC WORKS OR AN AUTHORIZED AGENT APPOINTED BY THE DIRECTOR.

3. PUBLIC SAFETY AND TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH COUNTY REQUIREMENTS AND AS DIRECTED BY THE ENGINEER. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.

4. A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR SHALL DO ALL FIELD STAKING. THE OWNER SHALL PROVIDE ONE SET OF CONSTRUCTION CONTROL STAKES; ANY ADDITIONAL STAKING NECESSARY SHALL BE PROVIDED BY THE ENGINEER/SURVEYOR AT THE EXPENSE OF THE CONTRACTOR. ALL STAKING SHALL BE DONE PER SECTION 5-1.07 PLACER COUNTY GENERAL SPECIFICATIONS.

5. THE CONTRACTOR IS HEREBY NOTIFIED THAT PRIOR TO COMMENCING CONSTRUCTION, HE IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR VERIFICATION AT THE CONSTRUCTION SITE OF THE LOCATIONS OF ALL UNDERGROUND FACILITIES WHERE SUCH FACILITIES MAY POSSIBLY CONFLICT WITH THE PLACEMENT OF THE IMPROVEMENTS SHOWN ON THESE PLANS. CALL "UNDERGROUND SERVICE ALERT" AT 800-642-2444 TWO (2) DAYS MINIMUM TO FOURTEEN (14) DAYS MAXIMUM BEFORE ANY EXCAVATION IS STARTED.

6. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING MONUMENTS AND OTHER SURVEY MARKERS. MONUMENTS AND SURVEY MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

7. ALL EXISTING A. C. SURFACES SHALL BE SAW CUT ONE-FOOT MINIMUM INSIDE THE EDGE OF PAVEMENT TO A NEAT, STRAIGHT LINE AND REMOVED. THE EXPOSED EDGE SHALL BE SEALED WITH EMULSION PRIOR TO PAVING. THE EXPOSED BASE MATERIAL SHALL BE GRADED, RECOMPACTED AND RESEALED PRIOR TO PAVING.

8. THE CONTRACTOR SHALL MAINTAIN ADEQUATE DUST CONTROL PER SECTION 10, CALTRANS STANDARD SPECIFICATIONS.

9. EACH PARKING SPACE RESERVED FOR PERSONS WITH DISABILITIES SHALL BE IDENTIFIED BY A REFLECTORIZED SIGN, DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY, PERMANENTLY POSTED IMMEDIATELY ADJACENT TO AND VISIBLE FROM THE SPACE IN ACCORDANCE WITH TITLE 24 C.A.C. VAN ACCESSIBLE SPACES SHALL HAVE AN ADDITIONAL SIGN STATING "VAN-ACCESSIBLE" MOUNTED BELOW THE SYMBOL. A SIGN SHALL ALSO BE POSTED AT EACH PARKING LOT ENTRANCE OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH SPACE THAT CLEARLY AND CONSPICUOUSLY STATES: "UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES MAY BE TOWED AWAY AT OWNER'S EXPENSE." IN ADDITION, THE SURFACE OF EACH ACCESSIBLE PARKING SPACE SHALL HAVE A SURFACE IDENTIFICATION THAT CONFORMS TO ONE OF THE TWO SCHEMES OUTLINED IN SECTION 1129B.5 OF TITLE 24 C.A.C.

10. NO CONSTRUCTION SHALL BE DONE BETWEEN OCTOBER 15 AND MAY 1 WITHOUT A COUNTY APPROVED SEDIMENT AND EROSION CONTROL PLAN TO PREVENT SOIL EROSION. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE LATEST TRPA HANDBOOK OF BEST MANAGEMENT PRACTICES AND PLACER COUNTY GRADING ORDINANCE.

11. INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREVENTION OF SIGNIFICANT EROSION AND SILTATION ENTERING THE STORM DRAIN SYSTEM, NATURAL DRAINAGE COURSES AND/OR INTRUDING UPON ADJACENT ROADWAYS AND PROPERTIES. WINTERIZATION AND EROSION CONTROL SHOWN ON THESE PLANS IS INTENDED AS A GUIDE. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS DETERMINED IN THE FIELD AND APPROVED BY THE ENGINEER. THIS RESPONSIBILITY SHALL APPLY THROUGHOUT THE COURSE OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BECOME STABILIZED AND SHALL NOT BE LIMITED TO WET WEATHER PERIODS.

12. AFTER STRIPPING THE DEBRIS, ANY EXISTING LOOSE FILL, UNSUITABLE SOIL, SILTY SAND DEPOSITS, OR DISTURBED NATURAL SOILS SHALL BE EXCAVATED AND PROPERLY DISPOSED OF TO THE SATISFACTION OF THE ENGINEER.

13. THE CONTRACTOR SHALL REMOVE ALL ROAD MARKINGS, PAVEMENT MARKERS, AND OTHER DELINEATION THAT ARE IN CONFLICT WITH THE DELINEATION SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL LAYOUT ALL PAVEMENT MARKINGS FOR APPROVAL BY THE ENGINEER. AFTER APPROVAL, THE CONTRACTOR SHALL APPLY ALL PAINTED MARKINGS AND THERMOPLASTIC PAVEMENT MARKINGS WITHIN COUNTY RIGHT-OF-WAY AS WELL AS ALL ON-SITE PAINTED OR THERMOPLASTIC MARKINGS.

14. PERMANENT TRAFFIC SIGNS SHALL CONFORM TO MUTCD 2003 AND MUTCD 2003 CALIFORNIA SUPPLEMENT TRAFFIC SIGN STANDARDS FOR "STANDARD" SIZE, CHARACTER DIMENSIONS AND LETTER STROKE WIDTH. ALL STOP SIGNS SHALL BE 30" MINIMUM SIZE OF HIGH INTENSITY GRADE SHEETING.

15. AGGREGATE MATERIALS FOR ASPHALT CONCRETE SHALL CONFORM TO THE REQUIREMENTS LISTED FOR TYPE A OR TYPE B BITUMINOUS AGGREGATES IN SECTION 39 OF THE "STANDARD SPECIFICATIONS" AND UTILIZE PG 64-28 GRADE OF ASPHALT CONCRETE. ALL ASPHALT CONCRETE PLACED, WHETHER NEW ROADWAY OR OVERLAY, SHALL BE MATCHED TO GRADE WITH AN AGGREGATE BASE SHOULDER. THIS SHOULDER BACKING SHALL BE A MINIMUM OF 1' WIDE OR MATCH THE PROJECT PLANS, WHICHEVER IS GREATER.

16. THE UPPER 6" OF AGGREGATE BASE SHALL BE CLASS 2, 3/4" MAXIMUM GRADING. WHERE THE BASE THICKNESS EXCEEDS 6", THE DEPTH BELOW 6" MAY BE CLASS 2, 1 ½" MAXIMUM GRADING. AGGREGATE BASE SHALL CONFORM TO SECTION 26 OF THE COUNTY GENERAL SPECIFICATIONS.

17. ALL WORK WITHIN COUNTY RIGHT-OF-WAY SHALL CONFORM TO ALL PROVISIONS OF ENCROACHMENT STATED IN THE PERMIT SPECIFICATIONS AND GENERAL PROVISIONS OF ENCROACHMENT.

GENERAL NOTES (CONT.)

18. THE CONTRACTOR MUST IMMEDIATELY REINSTALL ANY TRAFFIC SIGNS REMOVED IN THE COURSE OF CONSTRUCTION. ANY SIGNS LOST OR DAMAGED BY THE CONTRACTOR SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

19. THE CONTRACTOR MUST PROVIDE TEMPORARY TRAFFIC STRIPING IF EXISTING DELINEATION IS DESTROYED DURING TRENCHING OR OTHER WORK. PAINTED MARKINGS OR STRIPING TAPE MAY BE USED. THE TEMPORARY STRIPING MUST BE APPROVED FOR MATERIAL AND LAYOUT BY THE ENGINEER BEFORE TRENCHING OR OTHER WORK IS STARTED. THE CONTRACTOR, AT THE EXPENSE OF THE DEVELOPER, SHALL SANDBLAST ALL TEMPORARY PAINTED MARKINGS THAT ARE TO BE REMOVED.

20. THE COUNTY MAY REQUIRE THE CONTRACTOR TO UNCOVER ANY IMPROVEMENTS THAT HAVE BEEN COMPLETED WITHOUT PROPER COUNTY INSPECTION AND/OR APPROVAL. IF THE INSTALLATION IS FOUND NOT TO MEET COUNTY STANDARDS OR PREVIOUSLY APPROVED ALTERNATIVES SHOWN ON THE PLANS, THE CONTRACTOR MAY BE REQUIRED TO REMOVE AND REPLACE SUCH IMPROVEMENTS AT HIS EXPENSE.

21. PRIOR TO ANY ACTIVITY OCCURRING WITHIN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL W20-1 SIGNS IN ACCORDANCE WITH PART 6 OF THE MUTCD 2003 AND THE MUTCD 2003 CALIFORNIA SUPPLEMENT. THE SIGNS SHALL BE PROFESSIONALLY MADE, METAL, REFLECTORIZED AND PLACED ON WOODEN POSTS FOR THE DURATION OF THE PROJECT. THE MINIMUM SIZE SHALL BE 36". THE SIGNS SHALL BE REPLACED OR REPAIRED IF STOLEN OR DAMAGED. THE PLACEMENT, TYPE AND LOCATION OF THE TRAFFIC CONTROL DEVICES SHALL BE REVIEWED AND APPROVED BY THE COUNTY INSPECTOR. THE INSPECTOR SHALL DIRECT THE INSTALLATION OR CHANGES TO SIGNS, STRIPING, CONES, BARRICADES ETC. DURING THE COURSE OF CONSTRUCTION FOR TRAFFIC SAFETY.

22. ONLY THE APPROXIMATE LOCATION OF THE EXISTING SANITARY SEWER HAS BEEN SHOWN. THE CONTRACTOR SHALL VERIFY EXACT LOCATION IN THE FIELD AND IMMEDIATELY NOTIFY THE PROJECT ENGINEER IF SAID LOCATION IS SIGNIFICANTLY DIFFERENT FROM THAT SHOWN ON THIS PLAN.

23. POTHOLING TO BE COMPLETED AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATIONS FOR INSTALLING PROPOSED IMPROVEMENTS FOR UTILITIES THAT APPEAR TO BE IN CONFLICT WITH THE PROJECT.

24. ADDITIONAL NOTES PERTAINING TO DUST CONTROL AND TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ARE PROVIDED ON THE DETAIL SHEET FOR TEMPORARY BMPS.

25. TREE REMOVAL SHALL NOT EXTEND MORE THAN 3 FEET BEYOND THE TOP OF PROPOSED CUT SLOPES, OR BEYOND THE TOE OF PROPOSED FILL SLOPES.

26. TEMPORARY HAMMERHEAD TURNAROUNDS MUST BE LOCATED SO AS TO AVOID SPECIAL FEATURES (E.G. ROCK OUTCROPS, TREES WITH DIAMETER AT BREAST HEIGHT (DBH) OF 30-INCHES OR GREATER, ETC.). FINAL LOCATION FOR TEMPORARY HAMMERHEAD TURNAROUNDS SHALL BE DETERMINED IN THE FIELD, AND ARE SUBJECT TO REVIEW AND APPROVAL BY PLACER COUNTY'S DESIGNATED PROJECT REPRESENTATIVE PRIOR TO GRADING.

DEVELOPERS NOTES

1. GEOTECHNICAL INVESTIGATION REPORT FOR "DOLLAR CREEK SHARED-USE TRAIL" PREPARED BY (PENDING) AND DATED (PENDING).

2. ALL GRADING AND PAVING WORK SHALL CONFORM TO THE RECOMMENDATIONS CONTAINED IN THE PLACER COUNTY GRADING ORDINANCE AND THE PROJECT PLANS AND SPECIFICATIONS AS WELL AS THE RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION REPORT.

3. THE BENCH MARK VERTICAL DATUM, AND CONTROL POINTS FOR THE PROJECT ARE PRESENTED ON (PENDING).

4. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH SMOOTH TRANSITIONS AND AVOIDING ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS OR HAZARDOUS CONDITIONS.

5. THE ENGINEER ASSUMES NO RESPONSIBILITY BEYOND THE ADEQUACY OF HIS DESIGN CONTAINED HEREIN.

6. THE FOLLOWING STANDARDS AND SPECIFICATIONS ARE REQUIREMENTS APPLICABLE TO THIS PROJECT AND SHALL BE MAINTAINED EXCEPT AS EXPLICITLY MODIFIED OR SUPPLEMENTED BY THESE PLANS. ALL REFERENCE STANDARDS AND SPECIFICATIONS ARE THE LATEST EDITIONS.

   A. CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)
   B. PLACER COUNTY
   C. NORTH TAHOE PUBLIC UTILITY DISTRICT
   D. TAHOE CITY PUBLIC UTILITY DISTRICT
   E. NORTH TAHOE FIRE PROTECTION DISTRICT

   THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING THE WORK WITH EACH OF THE ABOVE ENTITIES.

7. SHOULD IT APPEAR THAT THE WORK COMPLETED, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT NICHOLS CONSULTING ENGINEERS FOR SUCH FURTHER EXPLANATION AS MAY BE NECESSARY. PHONE: (775) 588-2505

8. ALL CONSTRUCTION STAKING REQUESTS SHOULD BE DIRECTED TO (PENDING) A MINIMUM OF 48 HOURS PRIOR TO ACTUAL NEED.

9. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HAVE BEEN ESTABLISHED BY FIELD OBSERVATION OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF THE UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THESE PLANS.

10. CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS FOR PUBLIC WORKS, AMBULANCE, POLICE AND FIRE DEPARTMENTS.

11. CONTRACTOR SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS.

12. CONTRACTOR AGREES THAT HE SHALL ASSUME THE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

13. THE CONTRACTOR SHALL EXPOSE AND CHECK ELEVATIONS OF EXISTING UTILITIES AND CLEARANCES OF UTILITY CROSSINGS BEFORE CONSTRUCTING NEW PIPELINES. CONTRACTOR TO COMPLETE POTHOLING AT LEAST 2 DAYS PRIOR TO EXCAVATING FOR THE INSTALLATION OF PROPOSED IMPROVEMENTS FOR UTILITIES THAT APPEAR TO BE IN CONFLICT WITH THE PROJECT.

14. OBSTRUCTIONS INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH WITH THE APPROPRIATE AGENCIES. NEITHER THE OWNER NOR THE ENGINEER ASSUMES RESPONSIBILITY THAT THE OBSTRUCTIONS INDICATED BE THE OBSTRUCTIONS ENCOUNTERED.

15. ALL MOBILE CONSTRUCTION EQUIPMENT, INCLUDING ELECTRICAL GENERATORS AND COMPRESSORS, UTILIZED DURING CONSTRUCTION SHALL BE PROPERLY MAINTAINED AND TUNED-UP. AS PRACTICAL, LOW EMISSION EQUIPMENT SHALL BE USED ONSITE. LOW SULFUR FUEL FOR CONSTRUCTION EQUIPMENT SHALL BE USED.

16. TEMPORARY POWER IF REQUIRED SHALL UTILIZE EXISTING POWER SERVICES OR CLEAN FUEL GENERATORS RATHER THAN TEMPORARY POWER GENERATORS.

17. EXISTING TOPOGRAPHY BASED ON A TOPOGRAPHIC SURVEY BY (PENDING) IN (PENDING).

18. THE CONTRACTOR SHALL KEEP DETAILED RECORDS AND AS-BUILTS SHOWING ALL MODIFICATIONS MADE TO THESE PLANS. THESE RECORDS AND AS-BUILTS SHALL BE PROVIDED TO THE ENGINEER UPON PROJECT COMPLETION FOR USE IN PREPARING RECORD DRAWINGS.

19. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH ALL WARRANTIES OR GUARANTEES PROVIDED BY ANY SUPPLIER, DISTRIBUTOR, OR MANUFACTURER OF MATERIALS FOR SUPPLIES USED IN THE CONSTRUCTION OF THE IMPROVEMENTS INDICATED IN THESE PLANS. THESE WARRANTIES OR GUARANTEES SHALL BE PROVIDED IN ADDITION TO ANY WARRANTIES OR GUARANTEES SEPARATELY REQUIRED BY THE OWNER FROM THE CONTRACTOR.

20. NO BURNING OF CONSTRUCTION DEBRIS OR OTHER ILLEGAL MATERIALS IS ALLOWED.

21. ADDITIONAL NOTES PERTAINING TO DUST CONTROL AND TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ARE PROVIDED ON THE DETAIL SHEET FOR TEMPORARY BMPS. CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERENCE TO THE REQUIREMENTS SET FORTH IN THOSE NOTES.

811 Know what's below. Call before you dig.

30% SUBMITTAL
PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION
DATE: 06-01-2012

LEGEND

NAME	EXISTING	PROPOSED
DROP INLET		
MANHOLE		
FIBER OPTIC LINE		
GAS LINE		
OVERHEAD ELECTRIC		
GATE VALVE		
STANDARD FIRE HYDRANT		
WATER METER		
MAIL BOX		
VERIFIED SOFT COVERAGE (TRAILS)		
AC PAVEMENT		
BRIDGE DECK		
TEMPORARY ACCESS ROAD/STAGING AREA		
TRANSITION APRON		
TRAIL W/ CROSS DRAINS		
TEMPORARY HAMMERHEAD TURNAROUND		
STABILIZED CONSTRUCTION ENTRANCE		
LIMITS OF GRADING		
MAJOR CONTOUR	6804	20 TOP SLOPE
MINOR CONTOUR		TOE SLOPE
CENTER LINE		
PROPERTY LINE		
P.U.E. LINE		
CULVERT CROSSING		
ELEVATION	23.16 FG, 23.20 EC, 23.13 FG	23.16, 23.20, 23.13
SILT FENCE		
CREEK		

NOTE:
PROPOSED IMPROVEMENTS ARE DRAWN TO PROVIDE SCHEMATIC REPRESENTATION ONLY AND ARE NOT TO SCALE.

ABBREVIATIONS

NOT ALL ABBREVIATIONS LISTED ARE USED IN THESE PLANS

AB	AGGREGATE BASE	M.D.D.	MAXIMUM DRY DENSITY
AC	ASPHALT CONCRETE OR ACRE	MJ	MECHANICAL JOINT
@	AT	MI.	MILE
APN	ASSESSORS PARCEL NUMBER	MIN.	MINIMUM
APPROX.	APPROXIMATE	MISC.	MISCELLANEOUS
ASS'Y	ASSEMBLY	MVC	MIDDLE OF VERTICAL CURVE
AVG.	AVERAGE	N	NORTH
AWWA	AMERICAN WATER WORKS ASSOCIATION	NEC	NATIONAL ELECTRICAL CODES
BW	BOTTOM OF WALL	N.I.C.	NOT IN CONTRACT
BMP	BEST MANAGEMENT PRACTICES	NTPUD	NORTH TAHOE PUBLIC UTILITY DISTRICT
BVC	BEGIN VERTICAL CURVE	N.T.S.	NOT TO SCALE
C&G	CURB AND GUTTER	# OR NO.	NUMBER
C.B.	CATCH BASIN	O.C.	ON CENTER
CL	CENTERLINE	O.G.	ORIGINAL GRADE
CLR.	CLEAR	OWS	OIL/WATER SEPARATOR
CO.	CLEAN OUT	±	PLUS OR MINUS
CONST.	CONSTRUCT	PT.	POINT
CF	CUBIC FEET	PCC	PORTLAND CEMENT CONCRETE
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE
CTC	CALIFORNIA TAHOE CONSERVANCY	PVMT	PAVEMENT
CY	CUBIC YARD	POS	POSITIVE
° OR DEG	DEGREE(S)	P.S.I.	POUNDS PER SQUARE INCH
DI	DUCTILE IRON	PL	PROPERTY LINE
ø OR DIA.	DIAMETER	P.U.E.	PUBLIC UTILITY EASEMENT
DWG	DRAWING	PVI	POINT OF VERTICAL INTERSECTION
DW, DWY	DRIVEWAY	R	RADIUS
EA.	EACH	RCP	REINFORCED CONCRETE PIPE
EASE.	EASEMENT	REVEG	REVEGETATION
E	EAST	RT,R	RIGHT, RADIUS
ELEC	ELECTRIC	R/W, ROW	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	SPPCO	SIERRA PACIFIC POWER COMPANY
ELEV.	ELEVATION	SEZ	STREAM ENVIRONMENT ZONE
EVC	END OF VERTICAL CURVE	SS	SANITARY SEWER, STAINLESS STEEL
EX., EXIST.	EXISTING	SCH	SCHEDULE
F.G.	FINISH GRADE	SSCO.	SANITARY SEWER CLEAN OUT
FH	FIRE HYDRANT	SSMH	SANITARY SEWER MANHOLE
FCA	FLANGE COUPLER ADAPTER	S	SLOPE, SOUTH
FES	FLARED END SECTION	SF OR SQ.FT	SQUARE FOOT/FEET
FL	FLOWLINE	SHT	SHEET
FLG	FLANGED	SY	SQUARE YARD
FT.	FOOT, FEET	STD.	STANDARD
FV	FLUSH VALVE	SDR	STANDARD DIMENSION RATIO
G	GAS	STA.	STATION
GV	GATE VALVE	SD	STORM DRAIN
GB	GRADE BREAK	SDMH	STORM DRAIN MANHOLE
HP	HIGH POINT	TBC	TOP BACK OF CURB
HOR., HORIZ.	HORIZONTAL	TC	TOP OF CURB
IN.	INCH	TCPUD	TAHOE CITY PUBLIC UTILITY DISTRICT
INT., INTX.	INTERSECTION	TW	TOP OF WALL
IE	INVERT ELEVATION	TYP.	TYPICAL
IRR.	IRRIGATION	UGE	UNDERGROUND ELECTRIC LINES
LCD	LAND CAPABILITY DISTRICT	UGT	UNDERGROUND TELEPHONE LINES
LT.L	LEFT	VC	VERTICAL CURVE
LEN.	LENGTH	VG	VALLEY GUTTER
LF	LINEAR FEET	W	WATER
LP	LOW POINT	WL	WATERLINE
LS	LUMP SUM	W	WEST
MFGR	MANUFACTURER	W/	WITH
MH	MANHOLE	WM	WATER METER
MAX.	MAXIMUM		

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REVISION #	DESCRIPTION AND SHEET NO.	APPROVED BY:	DATE:

DESIGNED BY: CS DATE: 06/01/2012
DRAWN BY: CKC DATE: 06/01/2012
CHECKED BY: JWN DATE: 03/28/2012

REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER C. SITTLER NO. C 53671 EXP. 06/30/13 CIVIL STATE OF CALIFORNIA

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TAHOE ENGINEERING DIVISION
PO BOX 336, 7717 N. LAKE BLVD (SR 28)
KINGS BEACH, CA 96143
(530) 581-6238 (530) 581-6239 (FAX)

DOLLAR CREEK SHARED-USE TRAIL

NOTES, LEGEND & ABBREVIATIONS

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. G2 OF 27

THE COUNTY OF PLACER OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

TEMPORARY BMP NOTES

1. THE CONTRACTOR SHALL IMPLEMENT CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMPs) IN ACCORDANCE WITH THE TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL PLAN NOTES AND DETAILS INCLUDED IN THIS PLAN SET.

2. GRADING, EXCAVATION, FILLING AND CLEARING OF VEGETATION OR OTHER DISTURBANCE OF SOIL SHALL NOT OCCUR BETWEEN OCTOBER 15 AND MAY 1.

3. ALL CONSTRUCTION SITES SHALL BE WINTERIZED BY OCTOBER 15 TO REDUCE THE WATER QUALITY IMPACTS ASSOCIATED WITH WINTER WEATHER PER TRPA CODE CHAPTER 33.3.1.

4. PER THE TAHOE CONSTRUCTION GENERAL PERMIT (R6T-2011-0019), BMPs SHALL BE VISUALLY INSPECTED DAILY DURING ACTIVE CONSTRUCTION.

5. THE CONTRACTOR SHALL MAINTAIN ALL TEMPORARY BMPS AT ALL TIMES.

6. DUST CONTROL
   a. DUST CONTROL MEASURES SHALL BE REQUIRED FOR ANY GRADING ACTIVITY CREATING SUBSTANTIAL QUANTITIES OF DUST. DUST CONTROL MEASURES SHALL BE APPROVED BY TRPA.
   b. AT A MINIMUM THE CONTRACTOR SHALL PROVIDE A WATER TRUCK TO WATER AREAS AS NECESSARY TO CONTROL DUST.
   c. STOCKPILES AND LOOSE SOIL MOUNDS SHALL BE PROTECTED FROM WIND OR WATER EROSION BY BEING APPROPRIATELY PROTECTED OR COVERED WHEN CONSTRUCTION IS NOT IN ACTIVE PROGRESS OR WHEN REQUIRED BY TRPA.

7. VEGETATION PROTECTION
   a. ALL TREES AND NATURAL VEGETATION SHALL NOT BE DISTURBED, INJURED OR REMOVED EXCEPT AS SPECIFICALLY CALLED OUT FOR IN THIS PLAN SET AND TRPA CODE CHAPTER 33.6.1.
   b. TREES SHALL NOT BE USED FOR THE PURPOSE OF SIGN POSTS, TELEPHONE WIRES OR TEMPORARY POWER, BRACING FOR FORMS OR OTHER SIMILAR TYPES OF USES PER TRPA CODE CHAPTER 33.6.7.
   c. VEGETATION PROTECTION FENCING SHALL BE CONSTRUCTED WITH METAL POSTS, INDUSTRY STANDARD ORANGE MESH FENCING, AND AT LEAST 4 FEET TALL, UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER OR TRPA.

8. EROSION CONTROL
   a. MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES AND SOIL.
   b. PHASE CONSTRUCTION ACTIVITY WHEN FEASIBLE.
   c. CONTROL STORMWATER FLOWING ONTO AND THROUGH THE PROJECT SITE.
   d. DISTURBED AREAS SHOULD BE STABILIZED AS SOON AS PRACTICABLE AFTER CONSTRUCTION ACTIVITIES AT THAT LOCATION HAVE CEASED.
   e. IF ROLLED EROSION CONTROL PRODUCTS ARE USED FOR SOIL STABILIZATION, INSTALLATION AND STAKING SHALL BE DONE ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
   f. NO VEHICLE OR HEAVY EQUIPMENT SHALL BE ALLOWED IN A STEAM ENVIRONMENT ZONE OR WET AREA EXCEPT AS AUTHORIZED BY TRPA.
   g. ONLY EQUIPMENT OF A SIZE AND TYPE THAT WILL DO THE LEAST AMOUNT OF DAMAGE, UNDER PREVAILING SITE CONDITIONS, AND CONSIDERING THE NATURE OF THE WORK TO BE PERFORMED, WILL BE USED.

9. SEDIMENT CONTROL
   a. STORM DRAIN INLETS SHOULD BE PROTECTED AT ALL TIMES UTILIZING APPROPRIATE BMPS.
   b. SILT FENCE BMP OR SEDIMENT ROLLS SHOULD BE USED AS PERIMETER CONTROLS FOR THE PROJECT SITE AS DIRECTED BY THE ENGINEER AND TRPA IN THE FIELD.
   c. EXCAVATED MATERIAL SHALL BE STORED UPGRADE FROM THE EXCAVATED AREA WHENEVER POSSIBLE. NO MATERIAL SHALL BE STORED IN ANY STREAM ENVIRONMENT ZONE OR WET AREA.
   d. CONTRACTOR SHALL PROVIDE CRUSHED ROCK OR RUMBLE BOARDS IN AREAS OF CONSTRUCTION SITE ACCESS AND EXITS.
   e. SOIL AND CONSTRUCTION MATERIAL SHALL NOT BE TRACKED OFF THE CONSTRUCTION SITE. GRADING OPERATIONS SHALL CEASE IN THE EVENT THAT A DANGER OF VIOLATING THIS CONDITION EXISTS.

10. POLLUTION CONTROL
    a. NO WASHING OF VEHICLES OR HEAVY EQUIPMENT, INCLUDING CEMENT MIXERS, SHALL BE PERMITTED ANYWHERE ON THE SUBJECT PROPERTY UNLESS AUTHORIZED BY TRPA IN WRITING.
    b. DISPOSAL OF ANY EXCAVATED OR WASTE MATERIAL (LIQUID OR SOLID) SHALL BE TO A SITE OUTSIDE THE TAHOE BASIN OR A LOCATION APPROVED BY TRPA IN WRITING.
    c. STAGING AREAS SHOULD BE CLEARLY DELINEATED AND APPROVED BY TRPA PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
    d. THE CONTRACTOR SHALL DEVELOP AND HAVE ON SITE AT ALL TIMES A SPILL PREVENTION AND RESPONSE PLAN.

11. TEMPORARY BMPs SHALL BE INSTALLED AND MAINTAINED PRIOR TO EXCAVATION AND DURING ALL PHASES OF THE PROPOSED PROJECT.

12. PROJECT CONSTRUCTION SHALL BE PHASED TO MINIMIZE THE AMOUNT OF DISTURBED SOILS EXISTING AT ONE TIME. ADDITIONALLY ALL NEW AND EXISTING CONVEYANCE AND TREATMENT FACILITIES SHALL BE FITTED WITH TEMPORARY BMPs TO PREVENT THE TRANSPORT OF SEDIMENT DURING STORM EVENTS DURING CONSTRUCTION.

13. TEMPORARY EROSION CONTROL DEVICES SHALL BE PLACED EVERY 500 FEET MINIMUM IN EXCAVATED TRENCHES AND DITCHES. WHERE PRACTICAL, TEMPORARY EROSION CONTROL DEVICES SHALL BE PLACED EVERY 100 FEET. TEMPORARY EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL SITE IS STABILIZED.

14. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE TRPA HANDBOOK OF BEST MANAGEMENT PRACTICES AND LIVING WITH FIRE, LAKE TAHOE BASIN, SECOND EDITION.

15. ALL PROJECT RELATED VEHICLES SHALL PARK ON EXISTING PAVED SURFACES, EXISTING COMPACTED ROAD SHOULDERS, OR APPROVED CONSTRUCTION STAGING AREAS. CONTRACTOR SHALL MINIMIZE CONSTRUCTION RELATED VEHICLE AND EQUIPMENT EMISSIONS DURING CONSTRUCTION BY SHUTTING OFF EQUIPMENT AND VEHICLES NOT IN USE. IDLING OF DIESEL ENGINES SHALL BE KEPT TO A MINIMUM SO FAR AS PRACTICAL.

16. PRIOR TO STARTING WORK, THE CONTRACTOR SHALL INSTALL TEMPORARY BMP MEASURES AT LOCATIONS WHERE NEEDED TO CONTROL EROSION AND WATER POLLUTION DURING THE CONSTRUCTION OF THE PROJECT. THE BMP MEASURES SHALL REMAIN IN PLACE, AND SHALL BE MAINTAINED IN A FUNCTIONAL CONDITION, FOR THE DURATION OF THE CONSTRUCTION. SILT FENCE IS REQUIRED AT ALL CROSS DRAIN OUTLETS. SILT FENCE WILL BE REQUIRED AT OTHER LOCATIONS AS SHOWN ON THE DRAWINGS OR STAKED IN THE FIELD BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL MEET OR EXCEED TRPA REQUIREMENTS.

17. ALL EXISTING VEGETATION SHALL BE PRESERVED UNLESS SPECIFICALLY IDENTIFIED BY THE ENGINEER FOR REMOVAL. BMP'S TO PROTECT VEGETATION SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN ON THE PLANS AND AS REQUIRED BY TRPA STAFF IN THE FIELD.

18. FOR TEMPORARY PROJECT BMPs REFER TO SHEETS (PENDING) AND D1.

19. INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND/OR EROSION.

DUST CONTROL PLAN

1. CONTRACTOR IS RESPONSIBLE FOR PREVENTING CONTROLLABLE FUGITIVE DUST FROM THE PROJECT'S DISTURBED AREAS FROM BECOMING AIRBORNE ON A 7-DAY/WEEK, 24-HOUR /DAY BASIS FROM COMMENCEMENT OF PROJECT TO FINAL COMPLETION.

2. WATER SHALL BE APPLIED TO THE AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BY WATER TRUCK OR WATER HOSE TO CONTROL FUGITIVE DUST SO LONG AS NO DISCHARGE OF WASTE MATERIAL TO SURFACE DRAINAGE OCCURS.

3. REGULAR VACUUMING OR SWEEPING OF ROADS WHERE PROJECT RELATED VEHICLES AND EQUIPMENT ENTER AND EXIT THE PROJECT AREA SHALL BE PERFORMED AT LEAST DAILY AND MORE OFTEN IF NECESSARY TO REMOVE DIRT OR WASTE RESULTING FROM THE CONSTRUCTION.

4. HAND SWEEPING AND DISPOSAL OF ALL WASTE RESULTING FROM SAW-CUTTING OF PAVEMENT VIA HAULING OUTSIDE OF THE TAHOE BASIN MAY BE ALLOWED SO LONG AS NO DISCHARGE OF WASTE MATERIAL TO SURFACE DRAINAGE OCCURS. IF IT APPEARS HAND SWEEPING DOES NOT REMOVE ALL WASTE RESULTING FROM SAW-CUTTING, VACUUMING WILL BE REQUIRED.

5. STOCKPILED EARTHEN MATERIALS SHALL BE STABILIZED BY MAINTAINING A VISIBLE CRUST BY APPLYING ADEQUATE MOISTURE; OR COVERING THE MATERIALS WITH A TARP TO PREVENT VISIBLE FUGITIVE DUST EMISSIONS.

6. ALL TRUCKS IMPORTING OR EXPORTING DIRT, ROCK OR OTHER FILL MATERIALS SHALL PREVENT SPILLAGE OR LOSS OF BULK MATERIAL FROM HOLES OR OTHER OPENINGS IN THE CARGO COMPARTMENT FLOOR, SIDES, AND/OR TAILGATE. ALL HAUL TRUCKS MUST BE COVERED WITH A TARP OR OTHER SUITABLE CLOSURE; OR BULK MATERIALS MUST CONTAIN ENOUGH MOISTURE AND/OR DUST SUPPRESSANT TO PREVENT FUGITIVE DUST EMISSIONS DURING TRANSPORT; OR LOAD ALL TRUCKS SUCH THAT THE FREEBOARD IS NOT LESS THAN SIX (6) INCHES. ALL MATERIALS NOT TO BE INCORPORATED INTO THE WORK SHALL BE HAULED OUTSIDE THE TAHOE BASIN.

7. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL DUST CONTROL MEASURES, SUCH AS EXTRA WATER TRUCKS, REVEGETATION, ENVIRONMENTALLY SAFE DUST PALLIATIVES (AS APPROVED BY TRPA), AND/OR CESSATION OF OPERATIONS SHOULD THE AFOREMENTIONED MEASURES FAIL TO CONTROL FUGITIVE DUST EMISSIONS FROM THE PROJECT.

8. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE MULCHED WITH A 2 TO 3 INCH LAYER OF PINE NEEDLES OR WOOD CHIPS. THIS MULCH SHALL BE MAINTAINED FROM COMPLETION OF THE INITIAL GRADING THROUGH COMPLETION OF THE PROJECT.

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(775) 588-2505* Fax (775) 588-2607

REVISION #	DESCRIPTION AND SHEET NO.:	APPROVED BY:	DATE:

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CHECKED BY: JWN DATE: 03/28/2012

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COUNTY OF PLACER
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TAHOE ENGINEERING DIVISION
PO BOX 336, 7717 N. LAKE BLVD (SR 28)
KINGS BEACH, CA 96143
(530) 581-6238 (530) 581-6239 (FAX)

DOLLAR CREEK SHARED-USE TRAIL
TEMPORARY BMP NOTES

PROJECT NO. A639.01.14
CONTRACT NO. ---
SHEET NO. G3 OF 27

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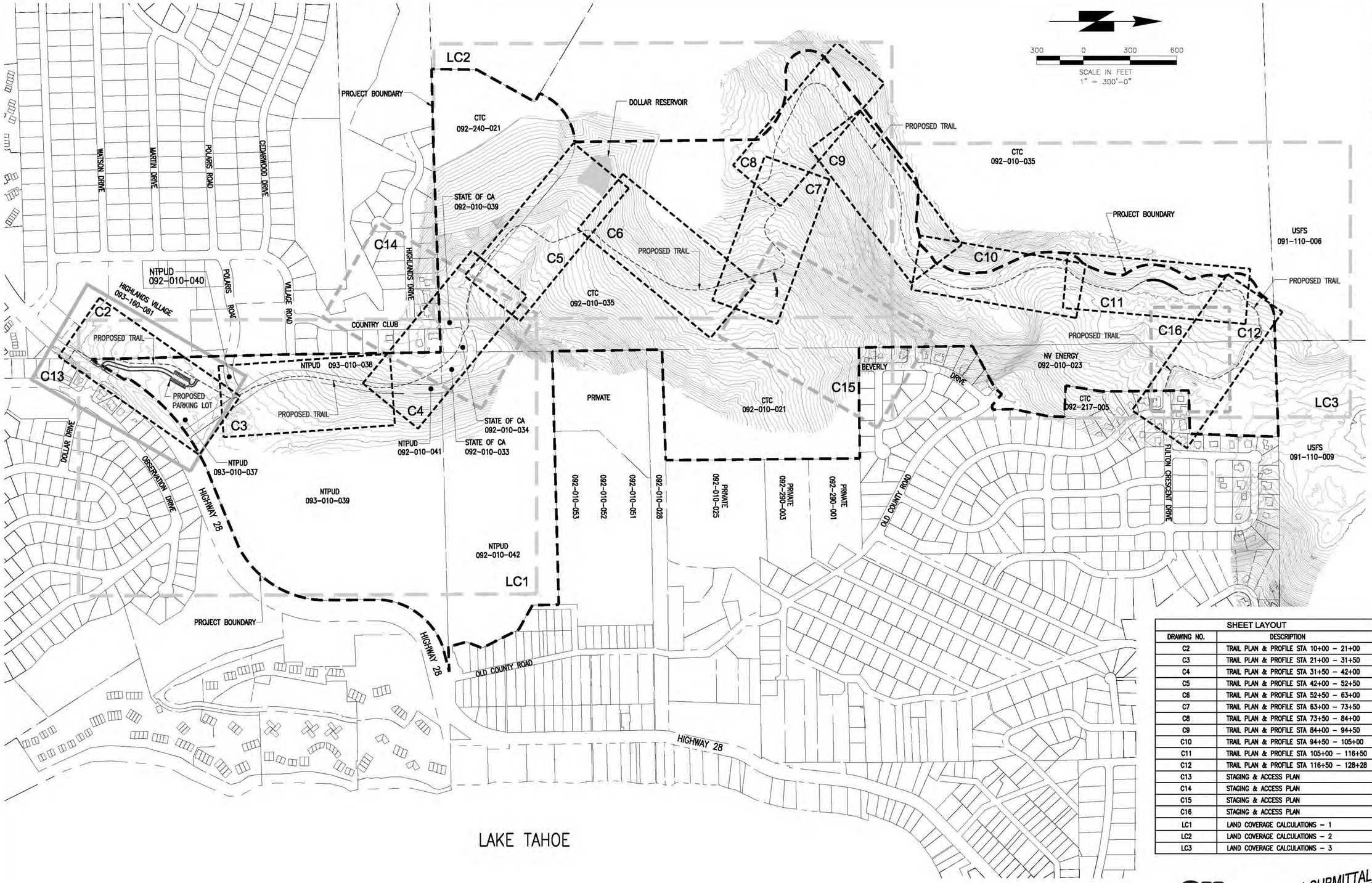

SHEET LAYOUT	
DRAWING NO.	DESCRIPTION
C2	TRAIL PLAN & PROFILE STA 10+00 – 21+00
C3	TRAIL PLAN & PROFILE STA 21+00 – 31+50
C4	TRAIL PLAN & PROFILE STA 31+50 – 42+00
C5	TRAIL PLAN & PROFILE STA 42+00 – 52+50
C6	TRAIL PLAN & PROFILE STA 52+50 – 63+00
C7	TRAIL PLAN & PROFILE STA 63+00 – 73+50
C8	TRAIL PLAN & PROFILE STA 73+50 – 84+00
C9	TRAIL PLAN & PROFILE STA 84+00 – 94+50
C10	TRAIL PLAN & PROFILE STA 94+50 – 105+00
C11	TRAIL PLAN & PROFILE STA 105+00 – 116+50
C12	TRAIL PLAN & PROFILE STA 116+50 – 128+28
C13	STAGING & ACCESS PLAN
C14	STAGING & ACCESS PLAN
C15	STAGING & ACCESS PLAN
C16	STAGING & ACCESS PLAN
LC1	LAND COVERAGE CALCULATIONS – 1
LC2	LAND COVERAGE CALCULATIONS – 2
LC3	LAND COVERAGE CALCULATIONS – 3

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DOLLAR CREEK SHARED-USE TRAIL

PLAN SHEET LAYOUT & INDEX

PROJECT NO. A639.01.14

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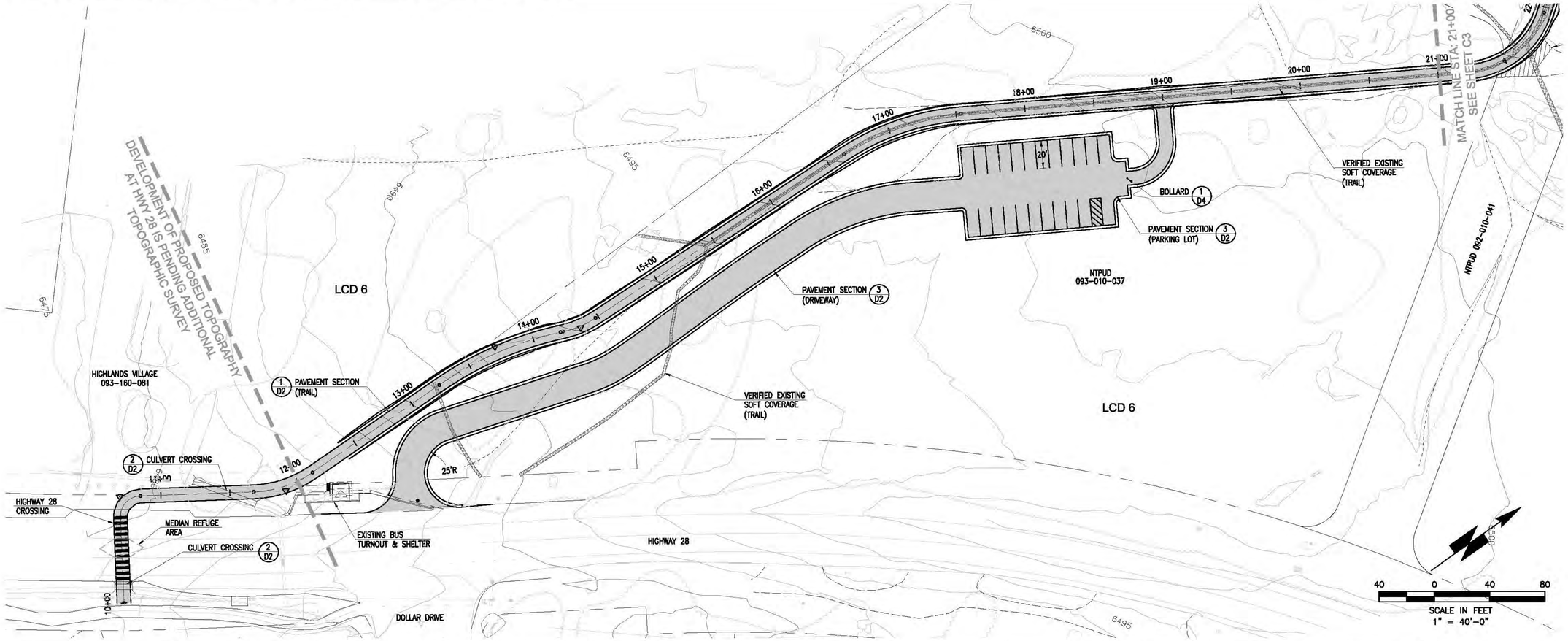

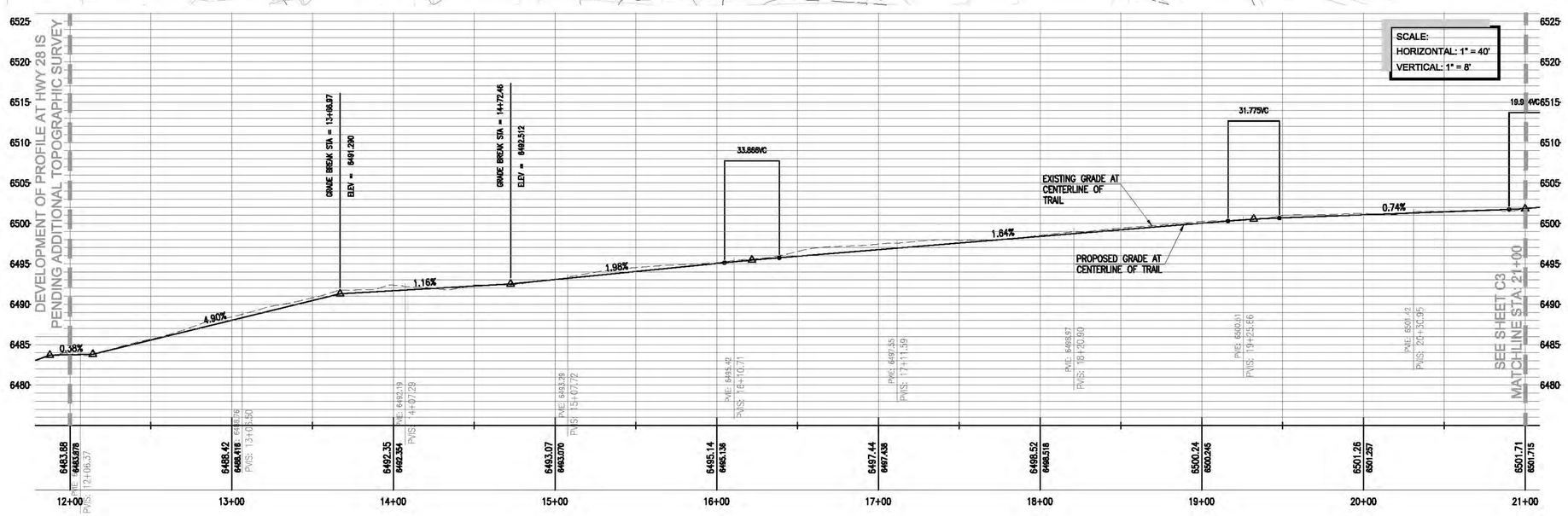

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DOLLAR CREEK SHARED-USE TRAIL

TRAIL PLAN & PROFILE STA 10+00 – 21+00

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. C2 OF 27

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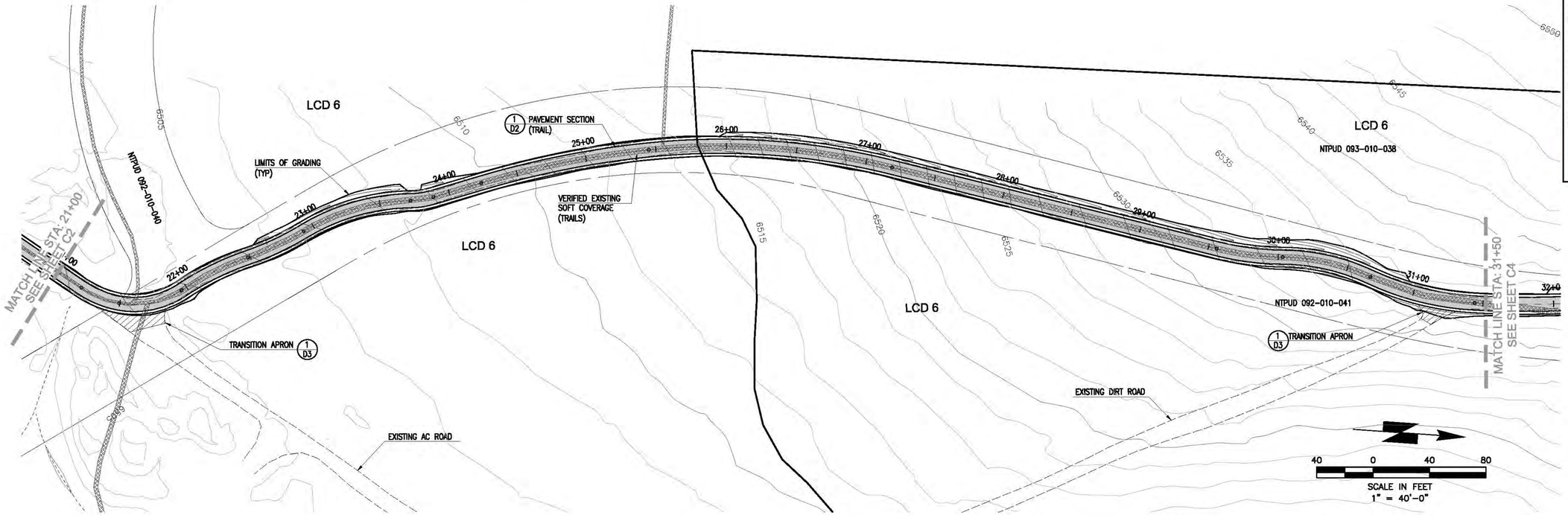

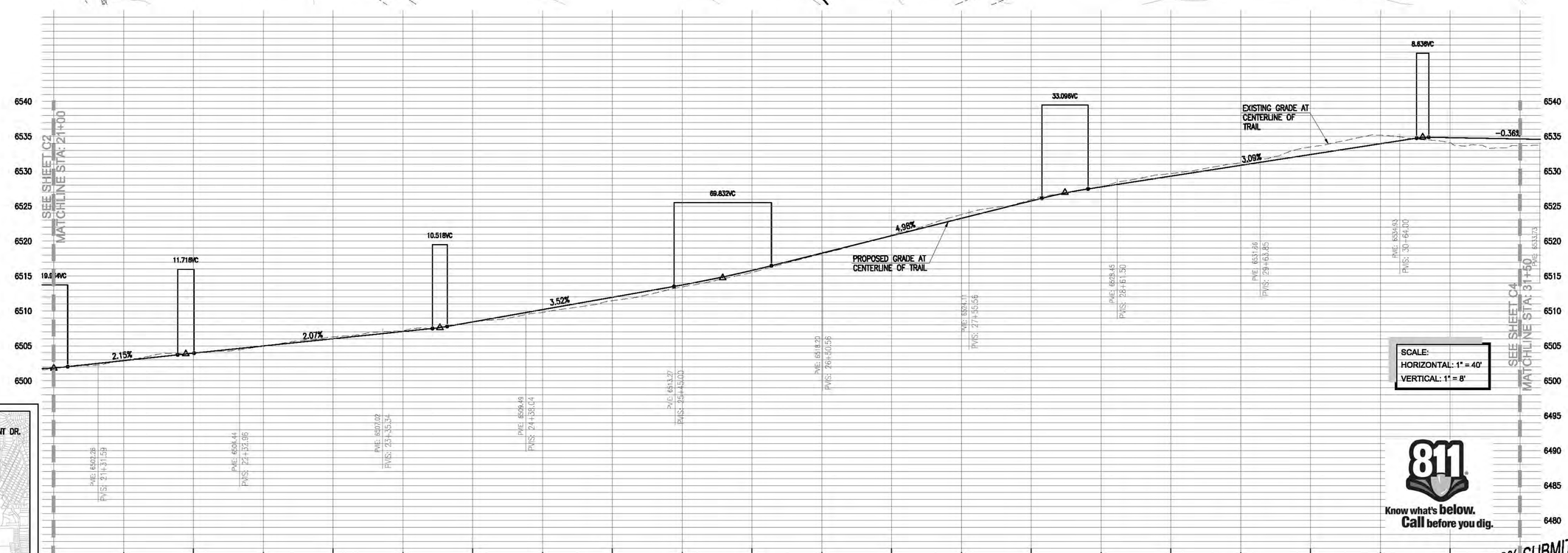

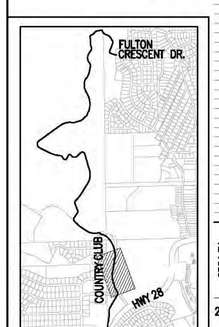

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DOLLAR CREEK SHARED-USE TRAIL

TRAIL PLAN & PROFILE STA 21+00 – 31+50

PROJECT NO. A639.01.14

CONTRACT NO. ---

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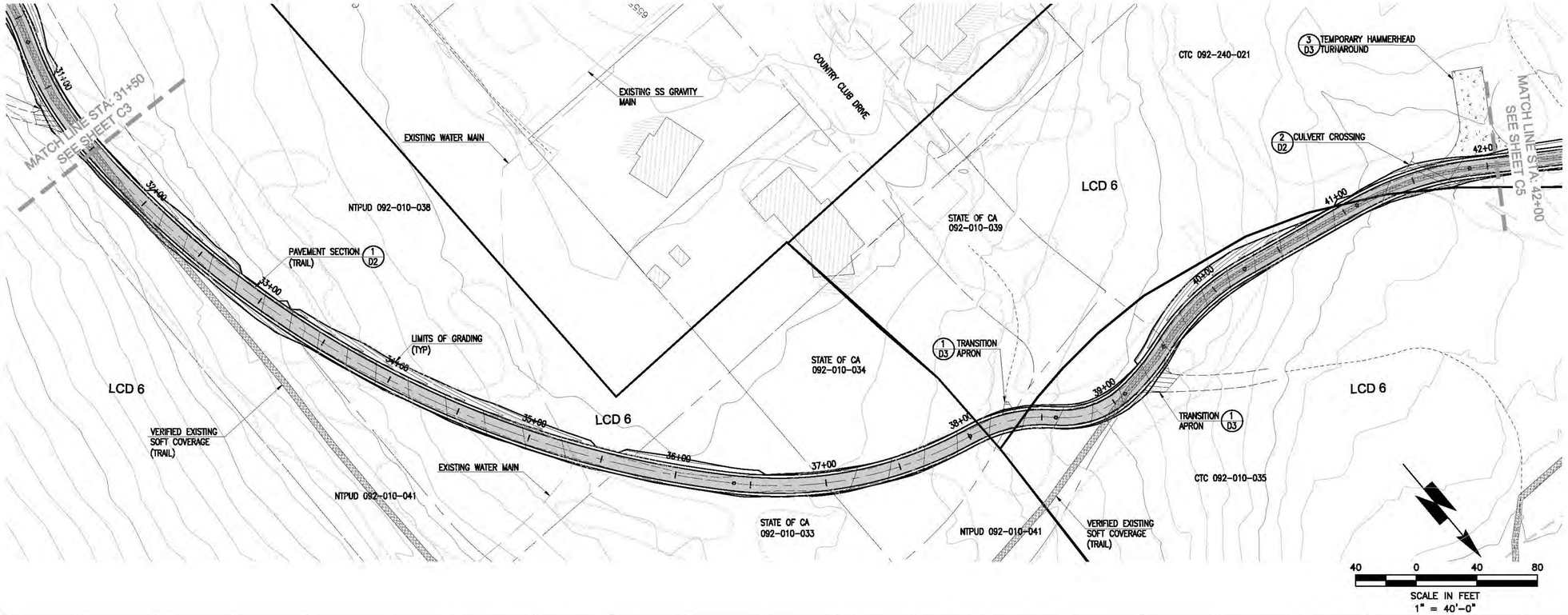

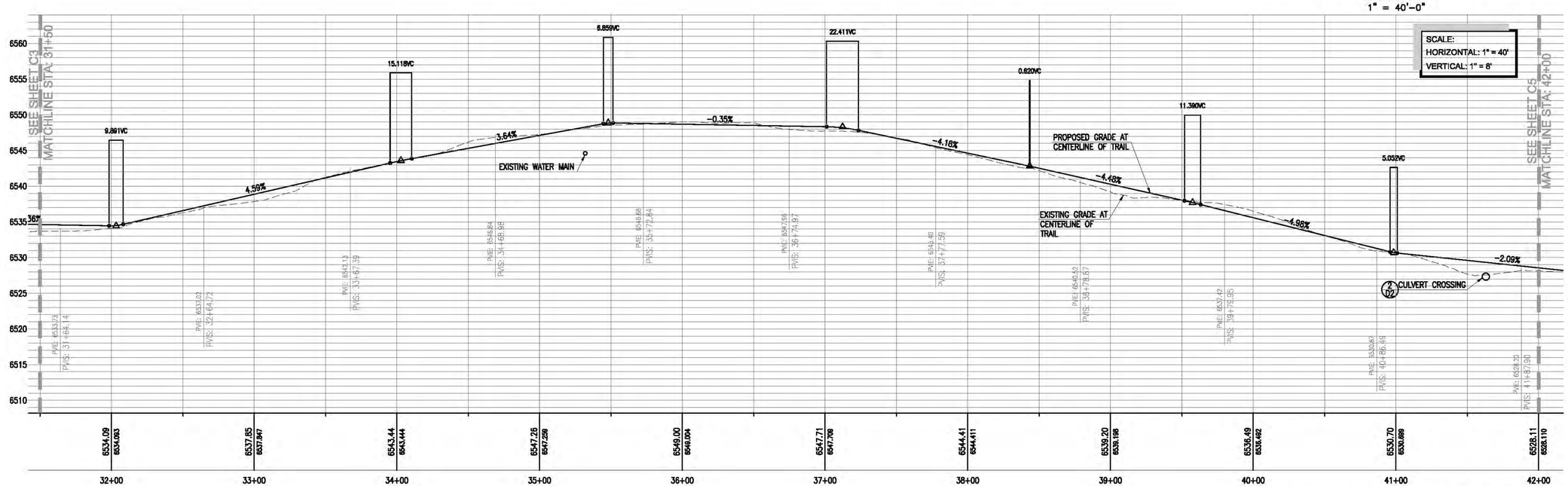

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DOLLAR CREEK SHARED-USE TRAIL

TRAIL PLAN & PROFILE STA 31+50 – 42+00

PROJECT NO.
A639.01.14

CONTRACT NO.

SHEET NO.
C4 OF 27

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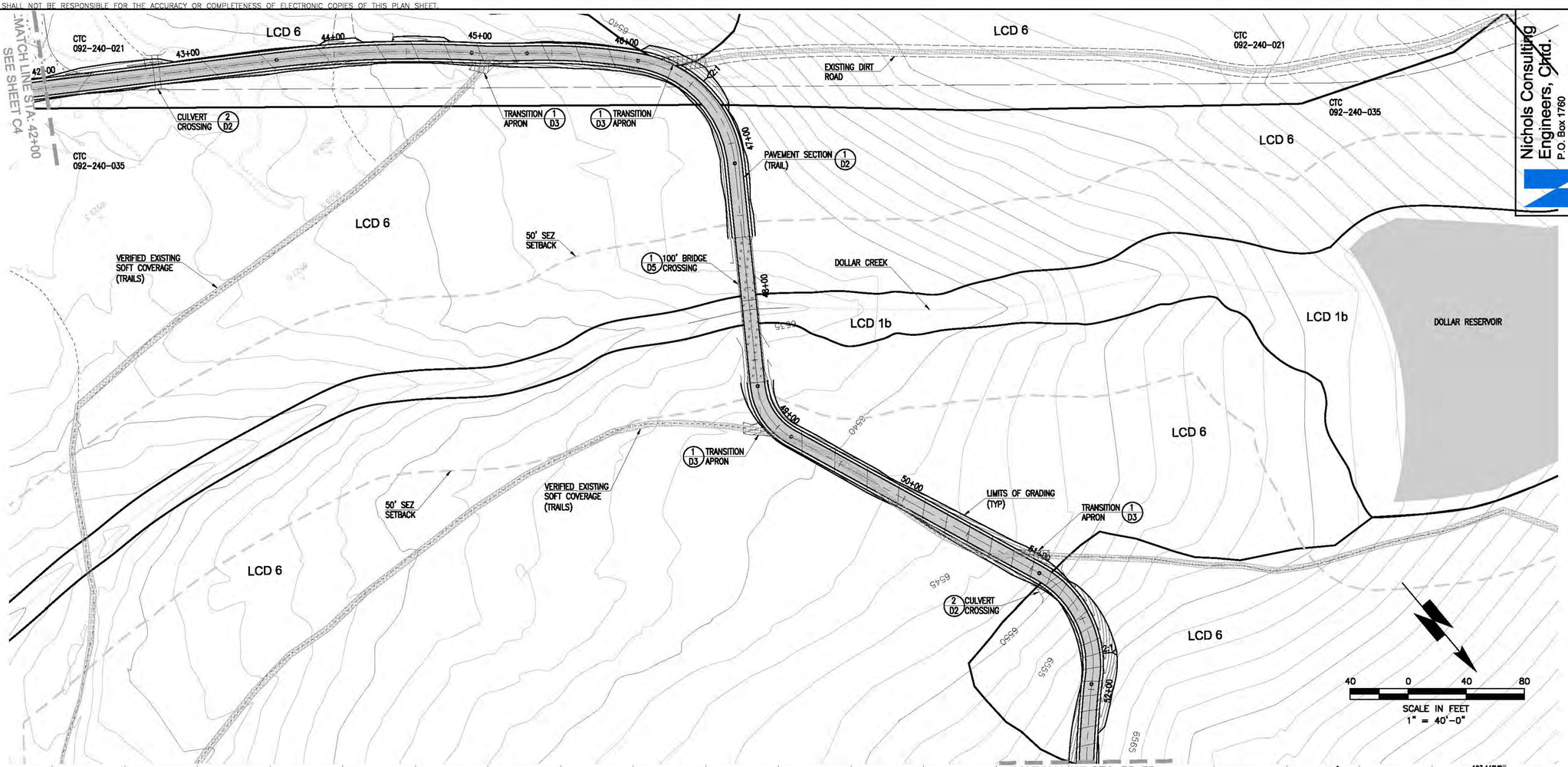

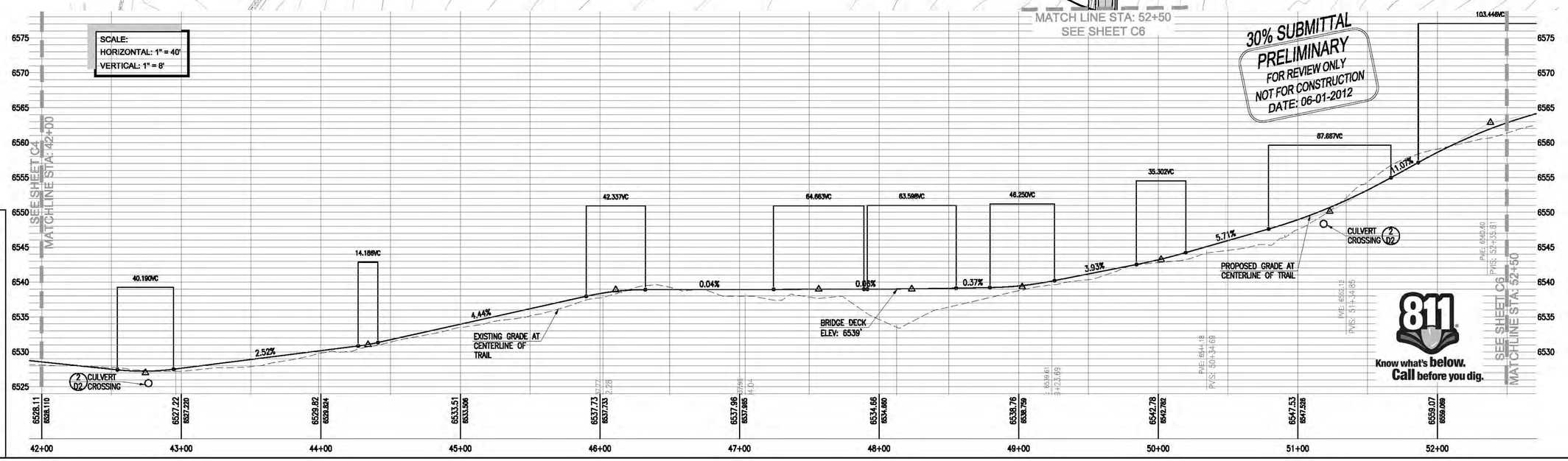

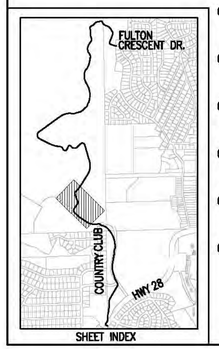

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TRAIL PLAN & PROFILE STA 42+00 – 52+50

PROJECT NO.
A639.01.14

CONTRACT NO.

SHEET NO.
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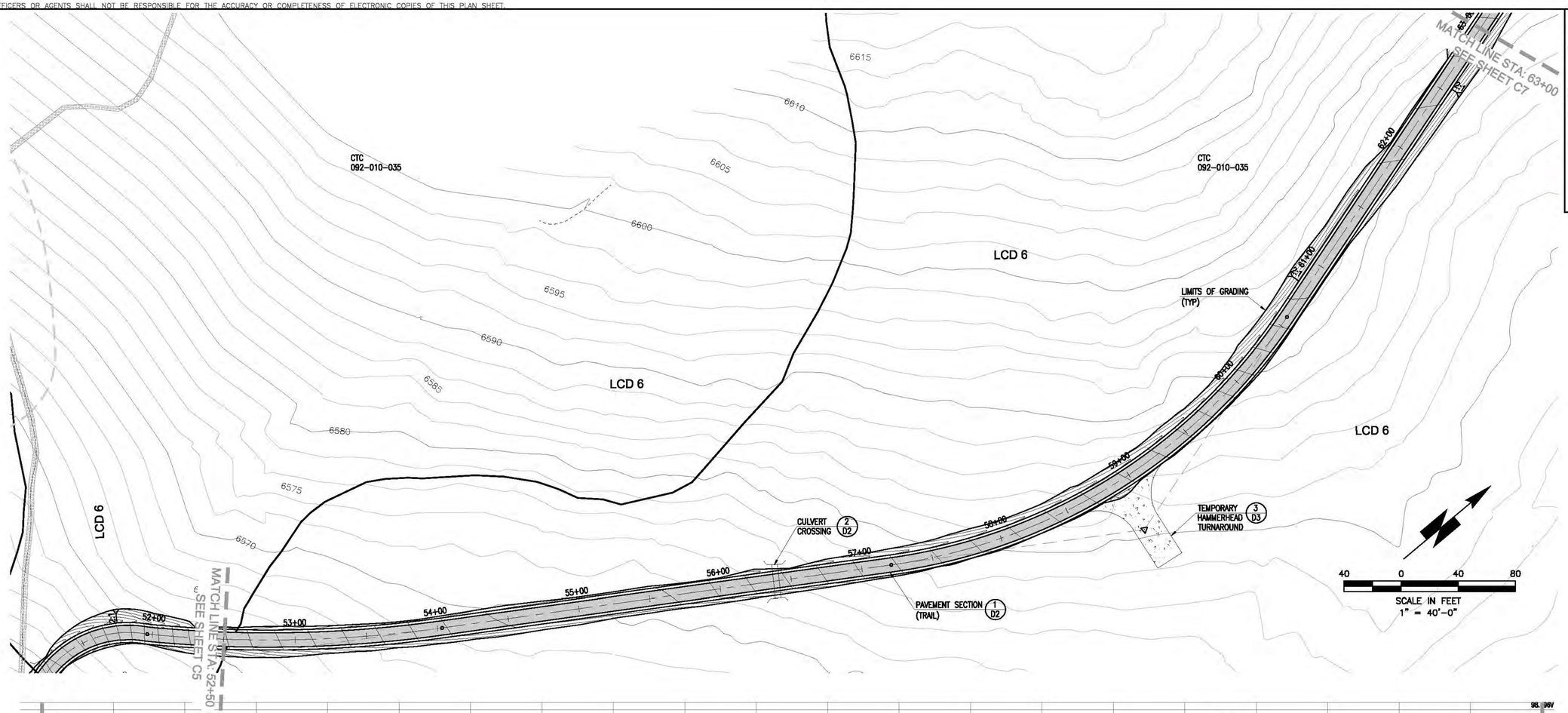

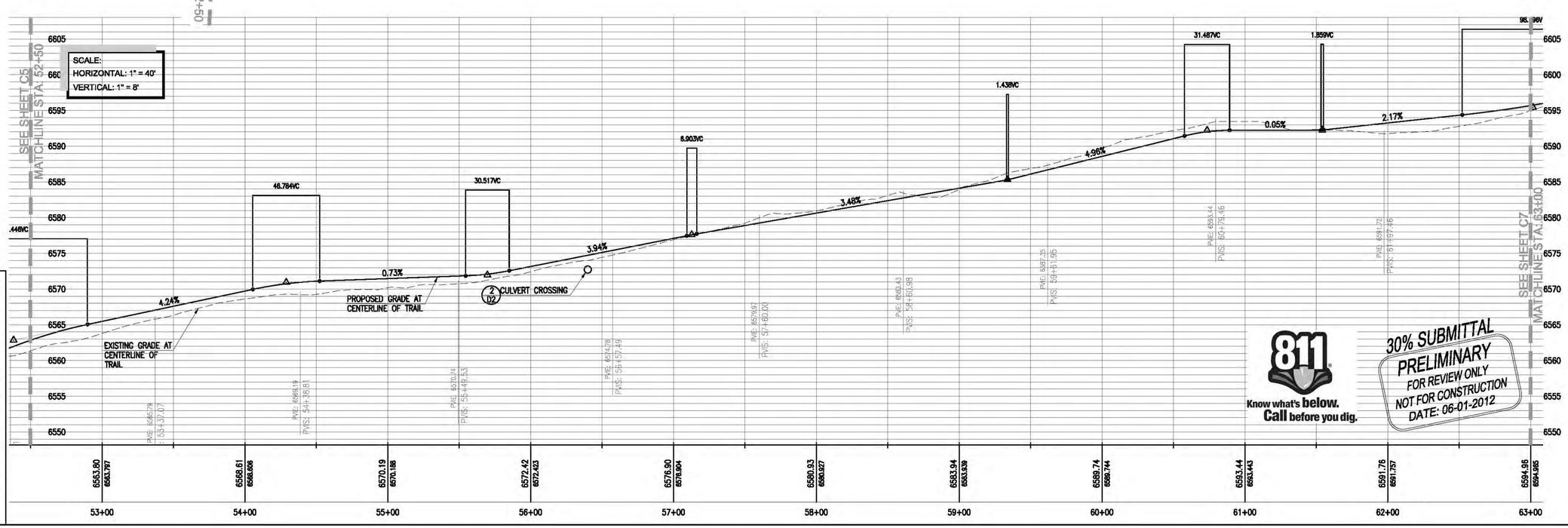

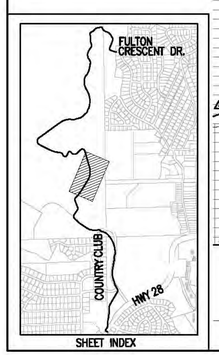

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DOLLAR CREEK SHARED-USE TRAIL

TRAIL PLAN & PROFILE STA 52+50 - 63+00

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. C6 OF 27

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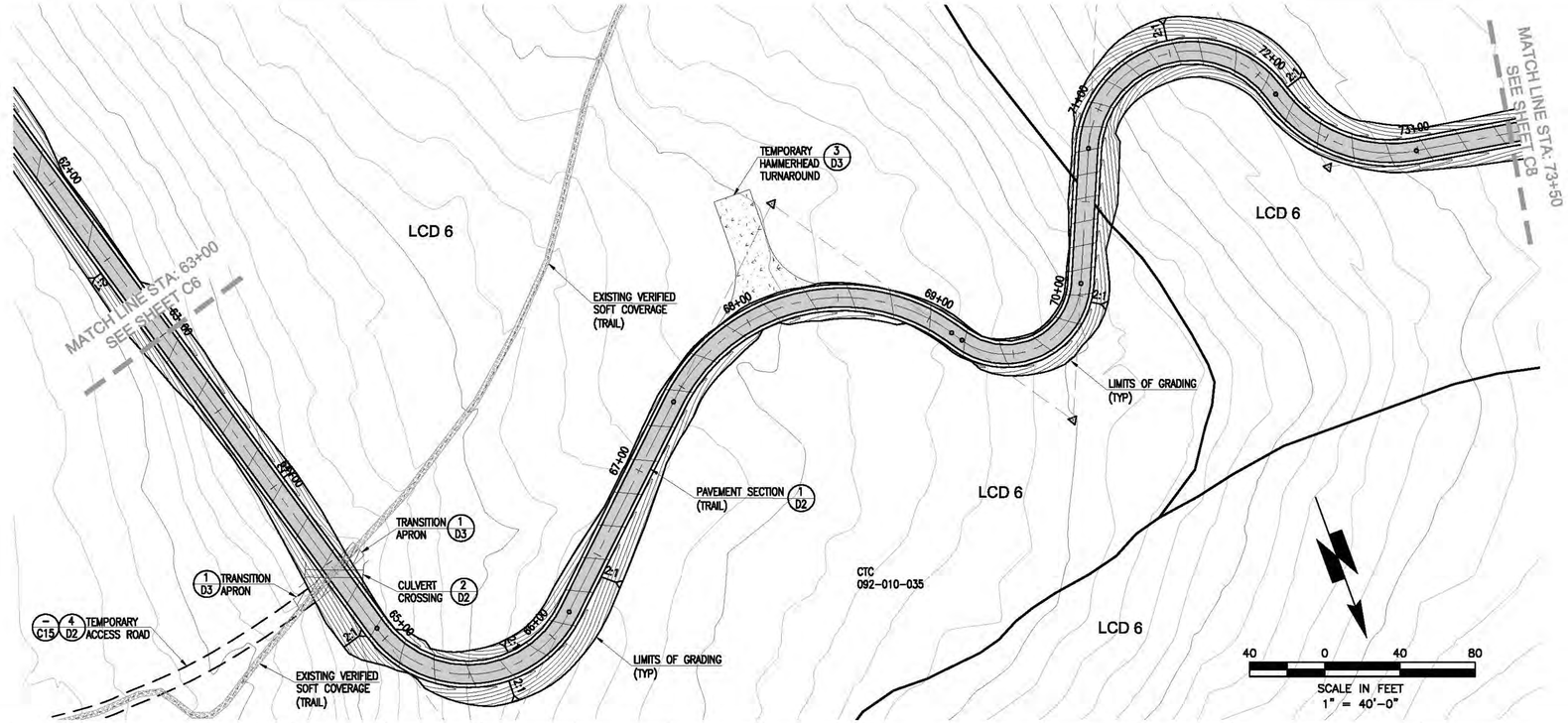

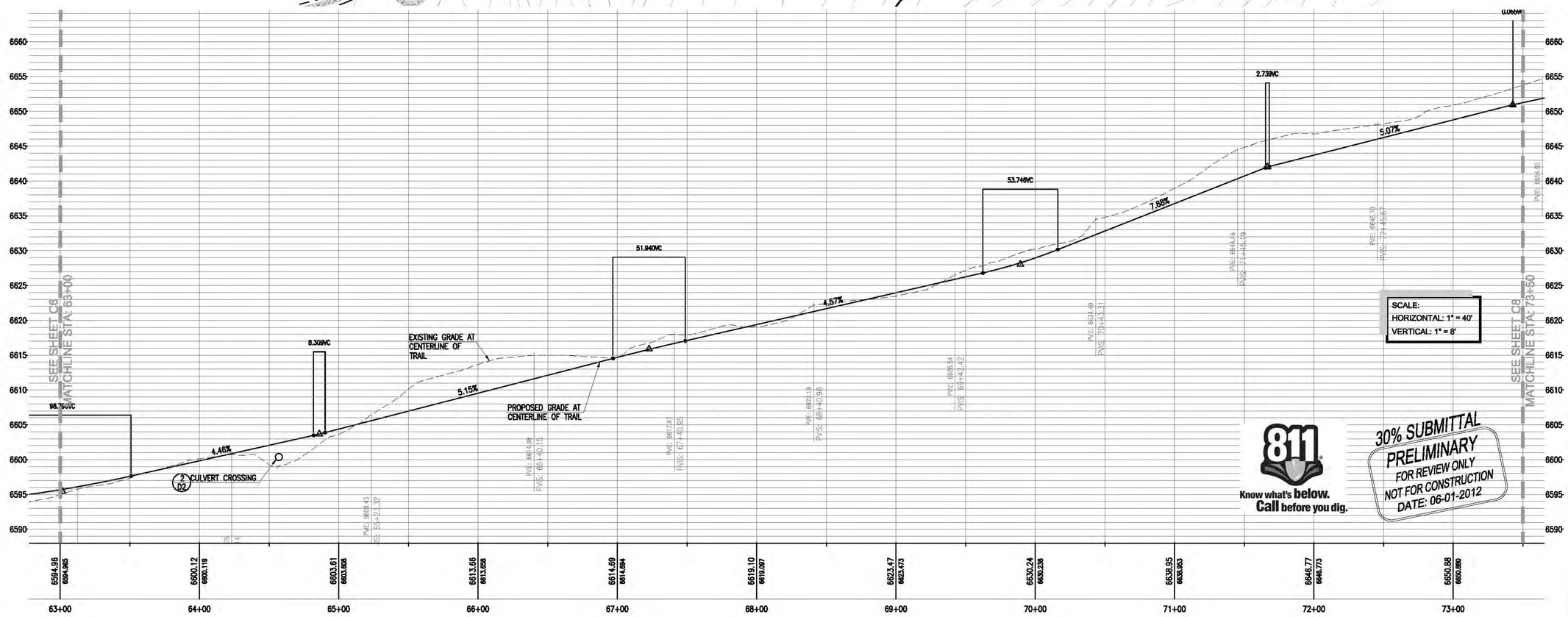

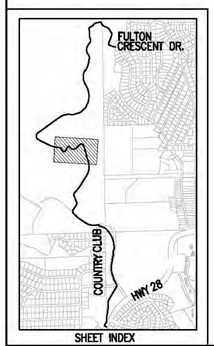

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TRAIL PLAN & PROFILE STA 63+00 - 73+50

PROJECT NO.
A639.01.14

CONTRACT NO.

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C7 OF 27

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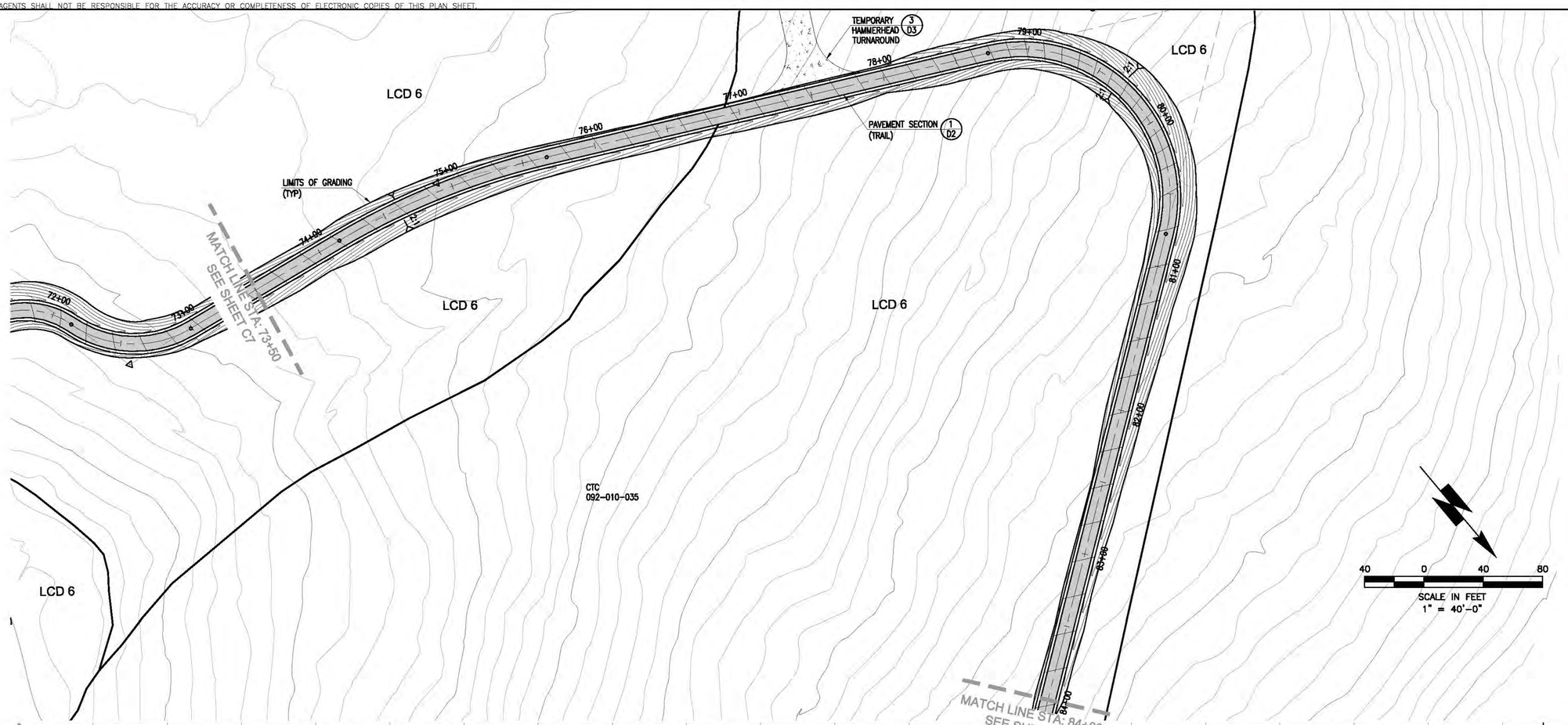

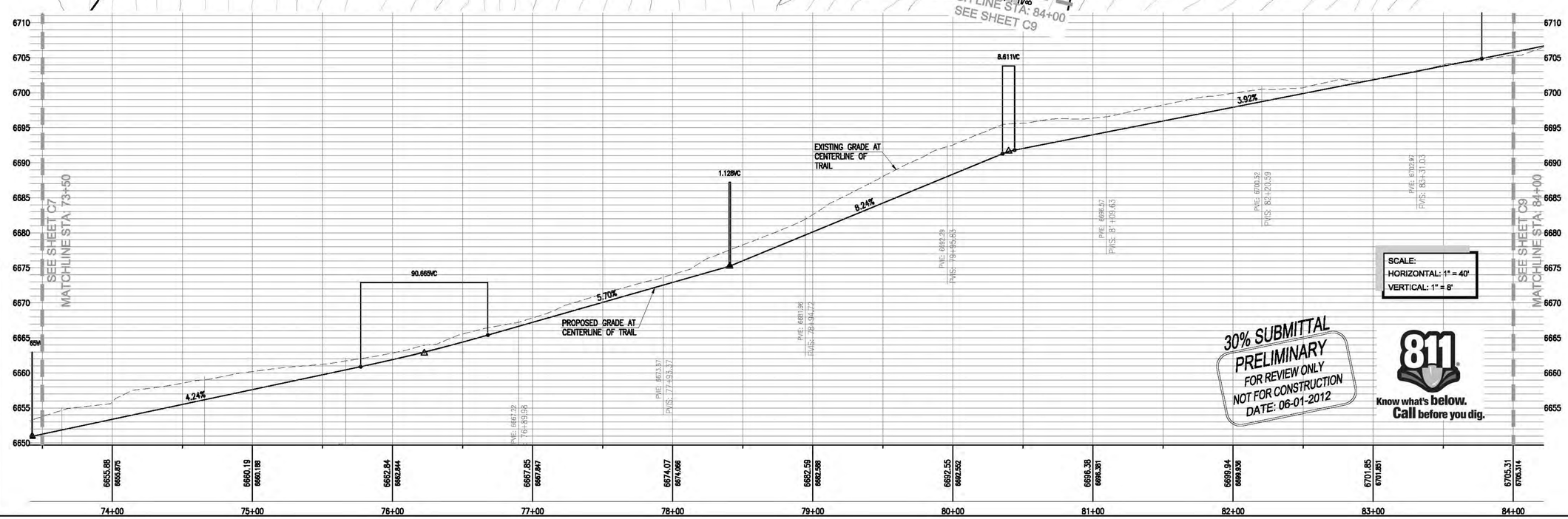

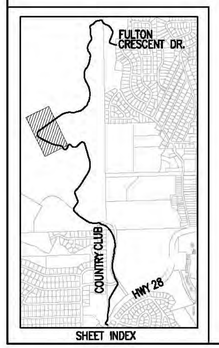

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DOLLAR CREEK SHARED-USE TRAIL

TRAIL PLAN & PROFILE STA 73+50 - 84+00

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. C8 OF 27

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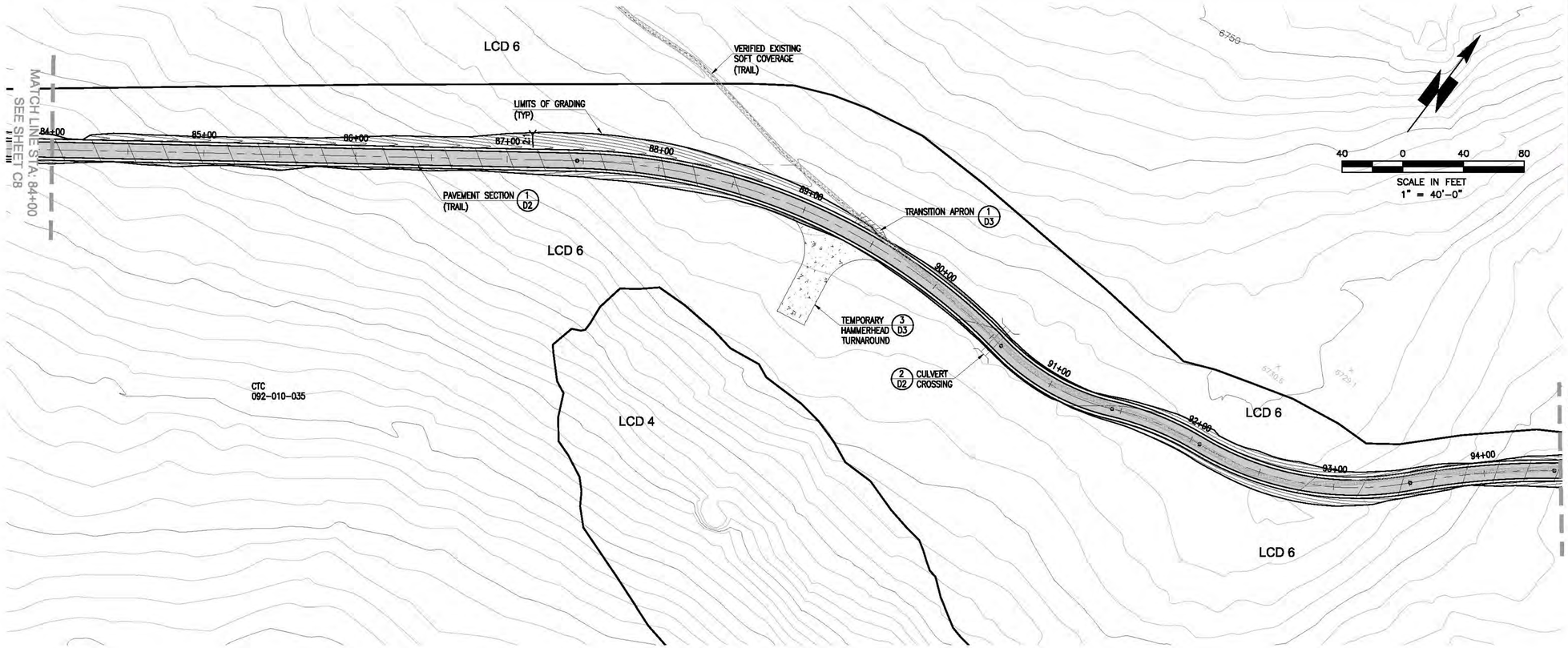

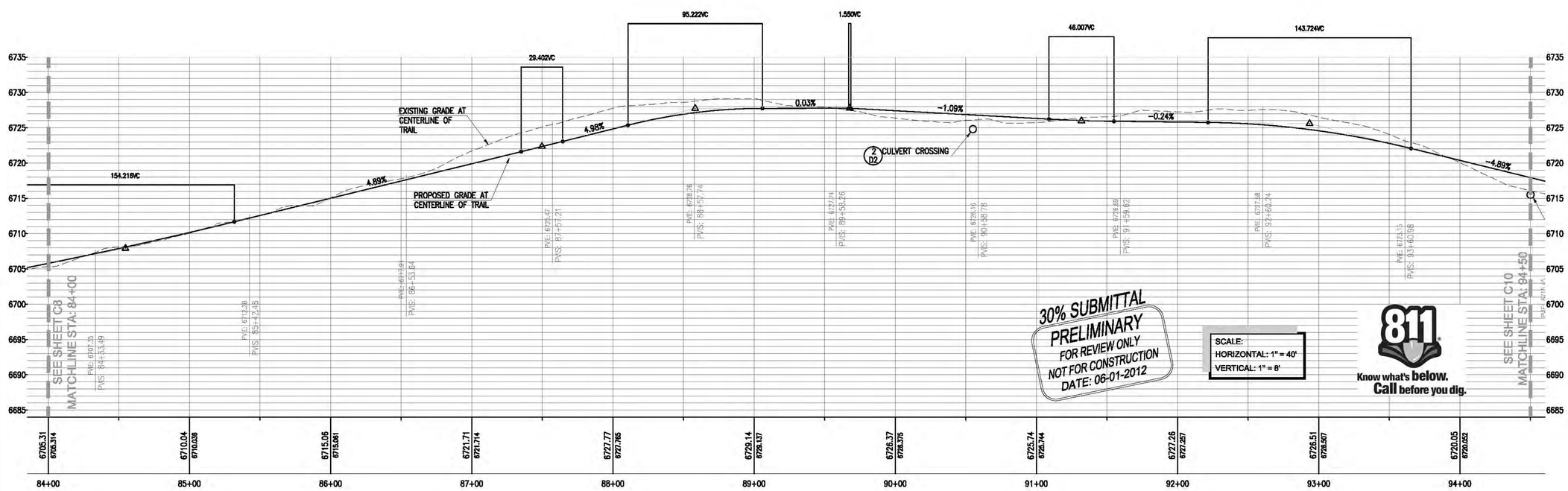

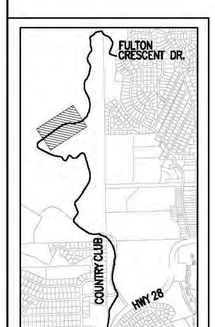

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TRAIL PLAN & PROFILE STA 84+00 – 94+50

PROJECT NO.
A639.01.14

CONTRACT NO.

SHEET NO.
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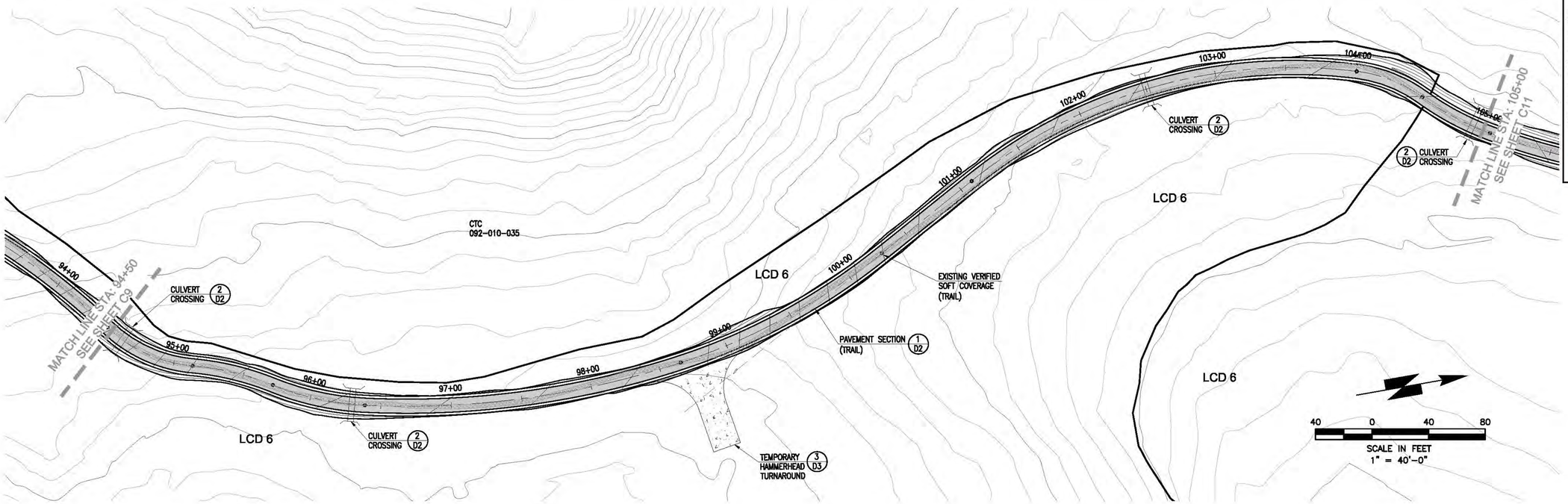

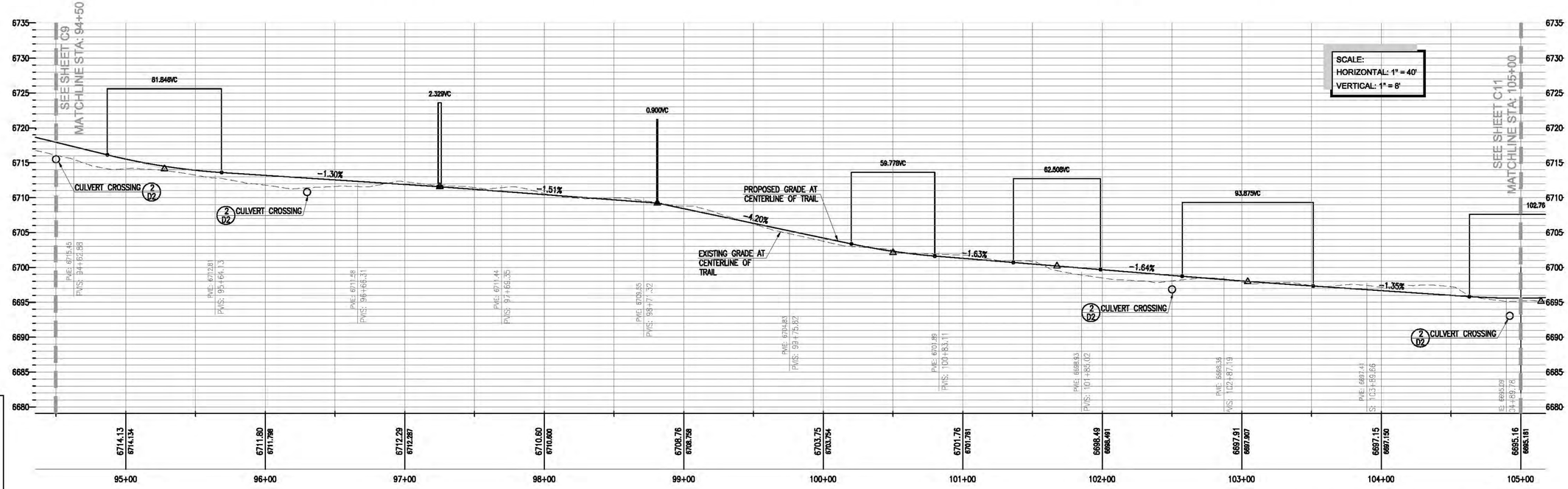

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DRAWN BY: CKC
DATE: 06/01/2012
CHECKED BY: JWN
DATE: 03/28/2012

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CHRISTOPHER C. SITTLER
NO. C 53671
EXP. 06/30/13
CIVIL
STATE OF CALIFORNIA

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TAHOE ENGINEERING DIVISION
PO BOX 336, 7717 N. LAKE BLVD (SR 28)
KINGS BEACH, CA 96143
(530) 581-6238 (530) 581-6239 (FAX)

DOLLAR CREEK SHARED-USE TRAIL

TRAIL PLAN & PROFILE STA 94+50 - 105+00

PROJECT NO.
A639.01.14

CONTRACT NO.

SHEET NO.
C10 OF 27

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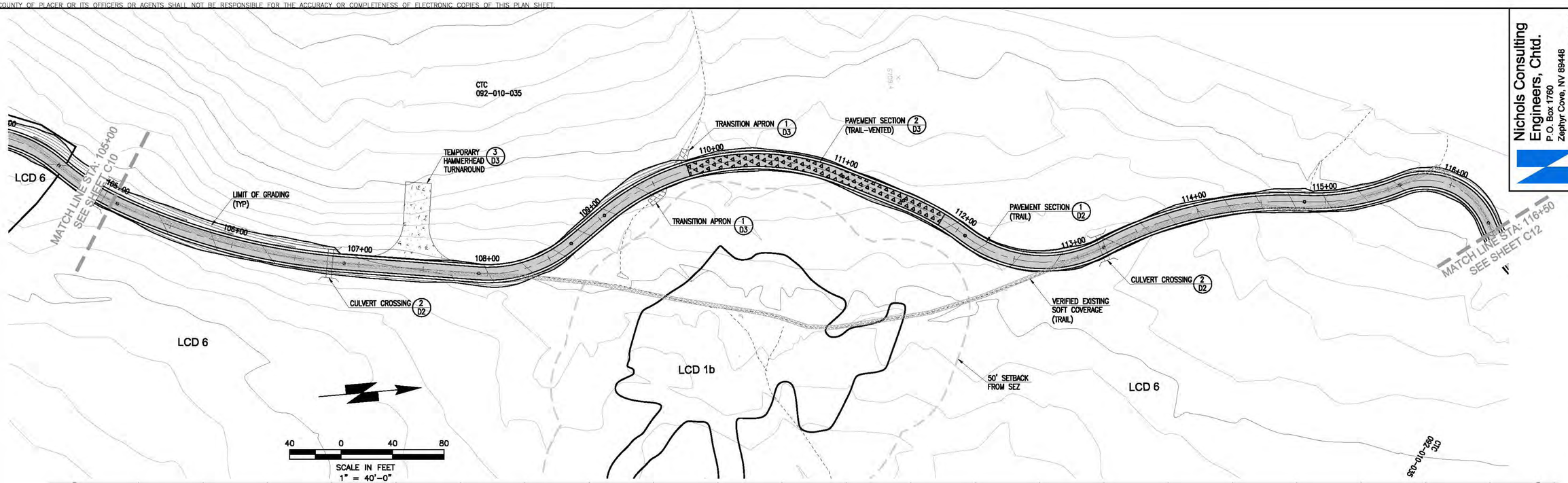

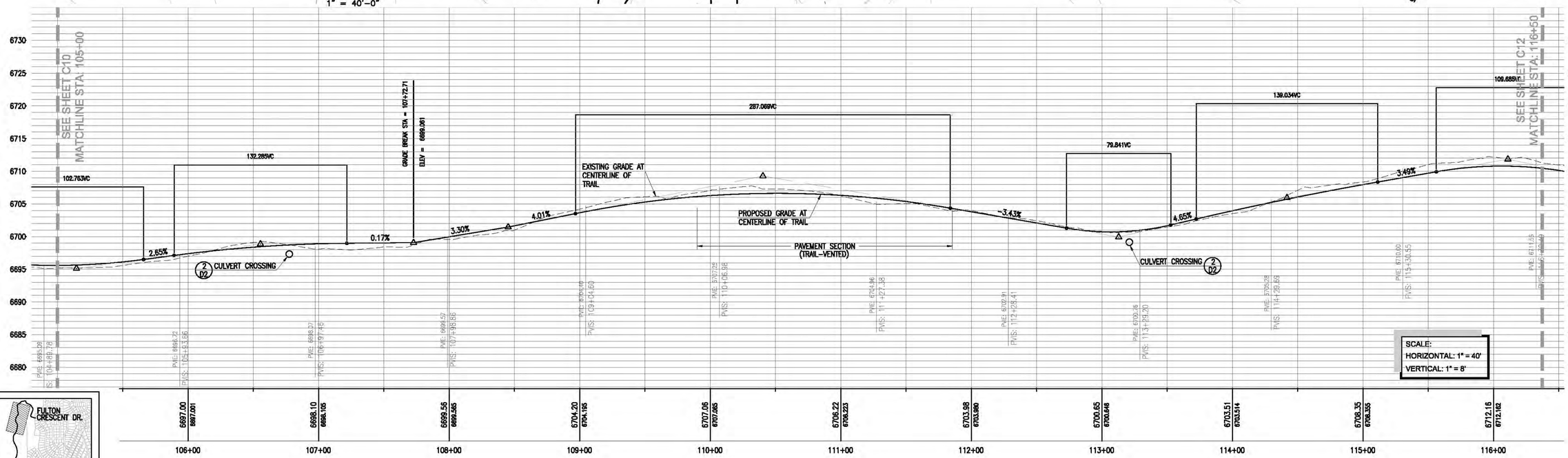

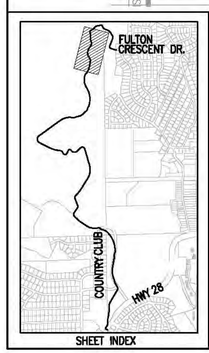

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TRAIL PLAN & PROFILE STA 105+00 – 116+50

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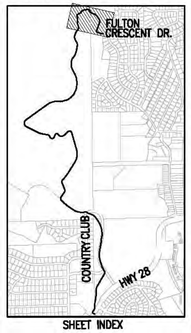

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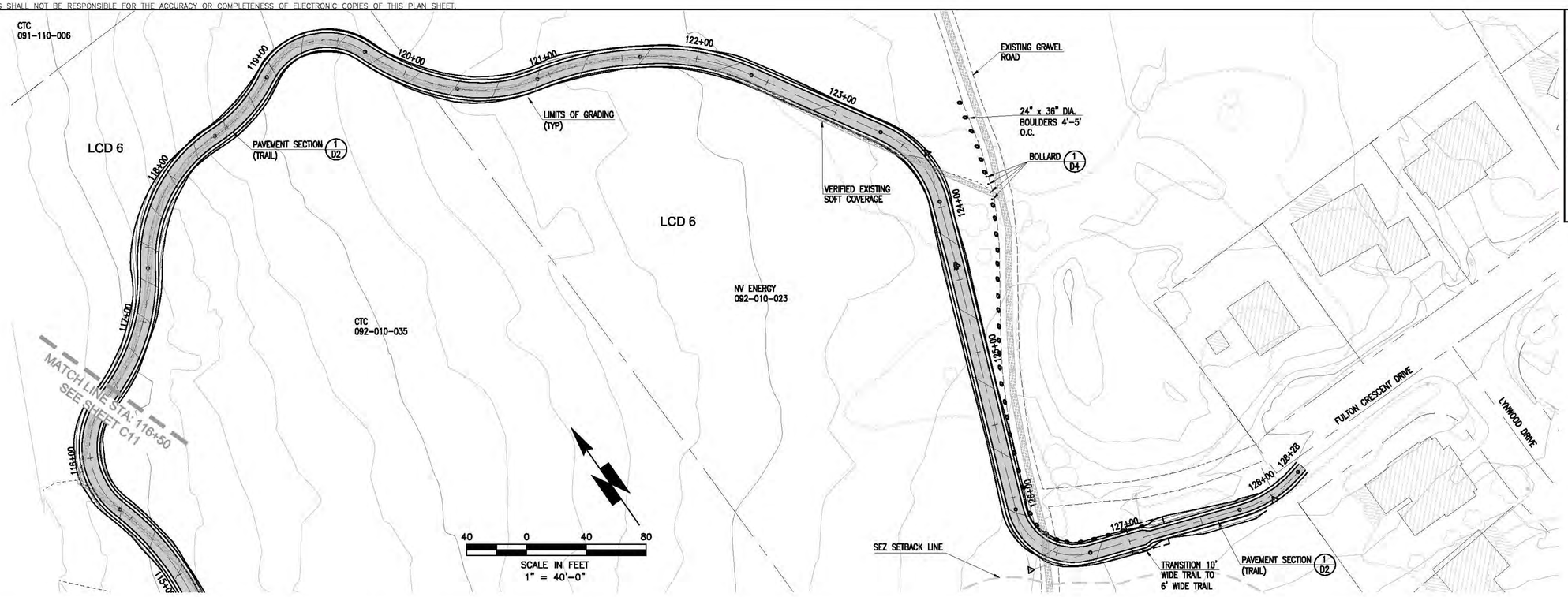

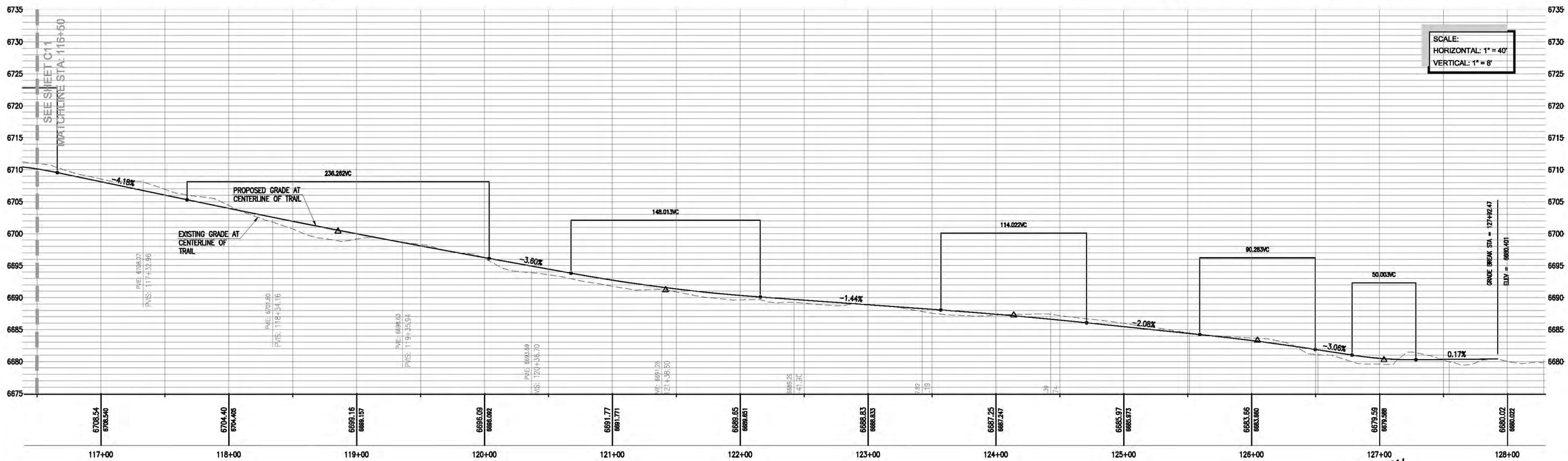

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DOLLAR CREEK SHARED-USE TRAIL

TRAIL PLAN & PROFILE STA 116+50 – 128+28

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. C12 OF 27

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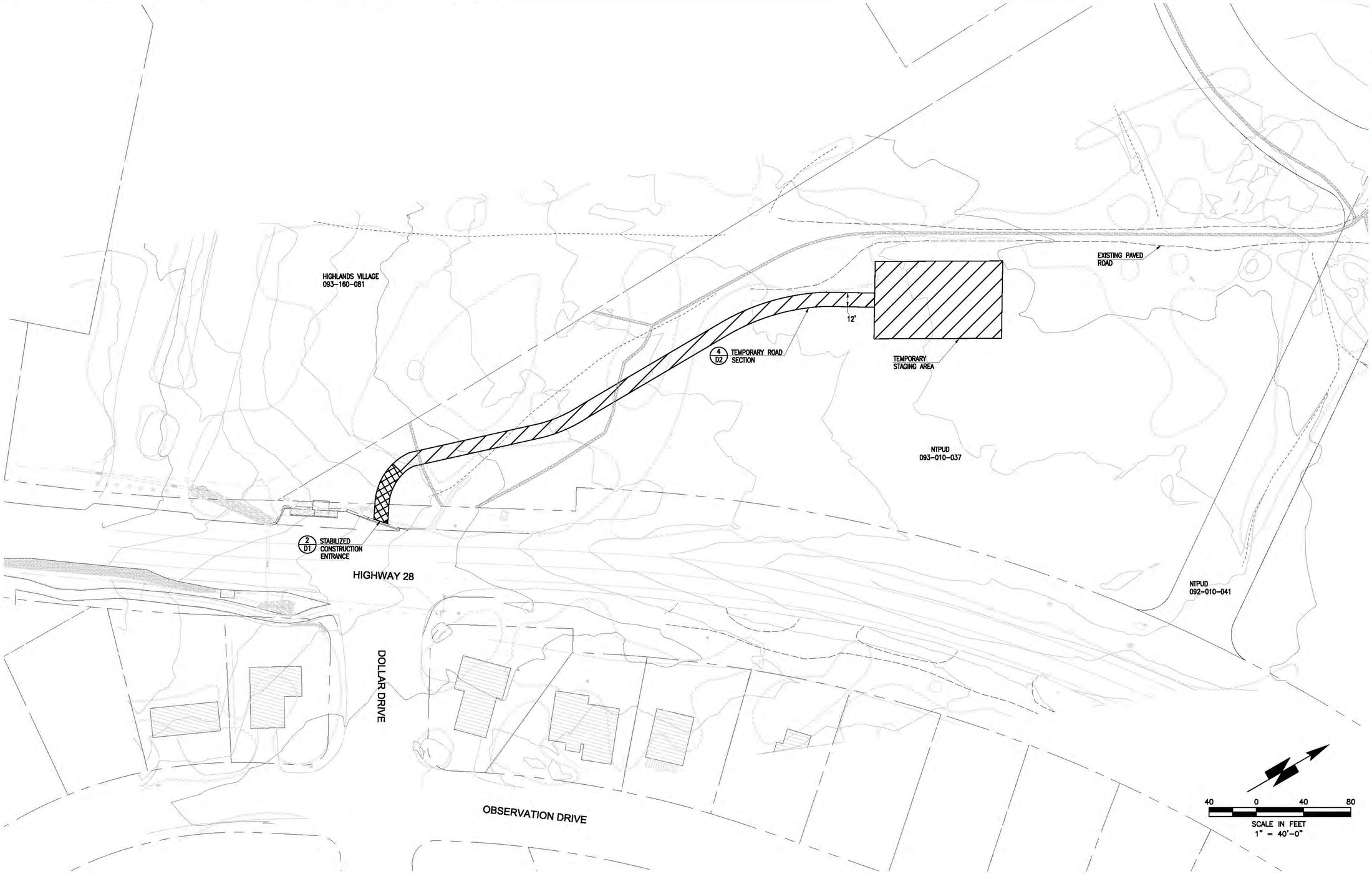

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DOLLAR CREEK SHARED-USE TRAIL

STAGING & ACCESS PLAN

PROJECT NO.
A639.01.14

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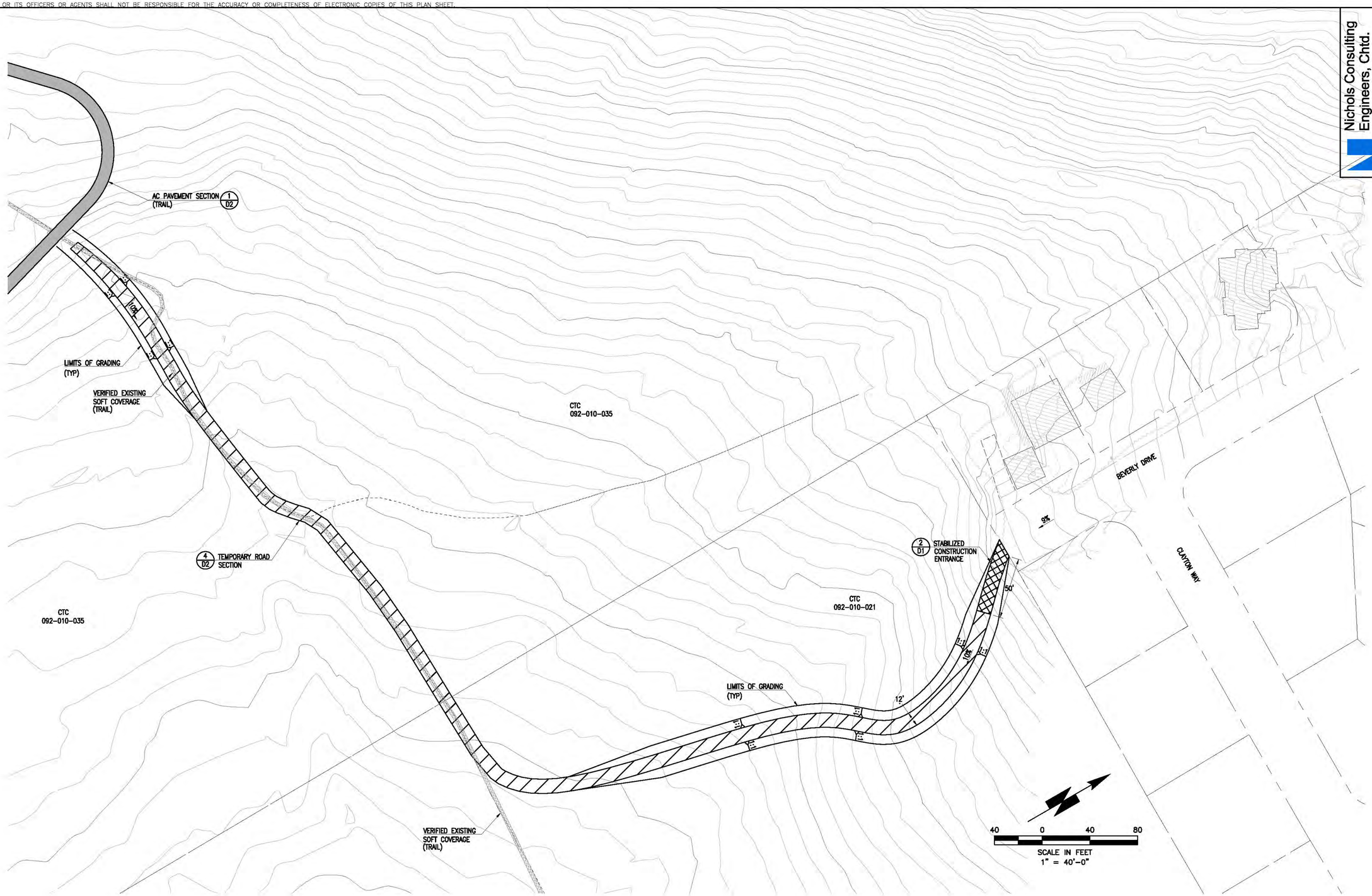

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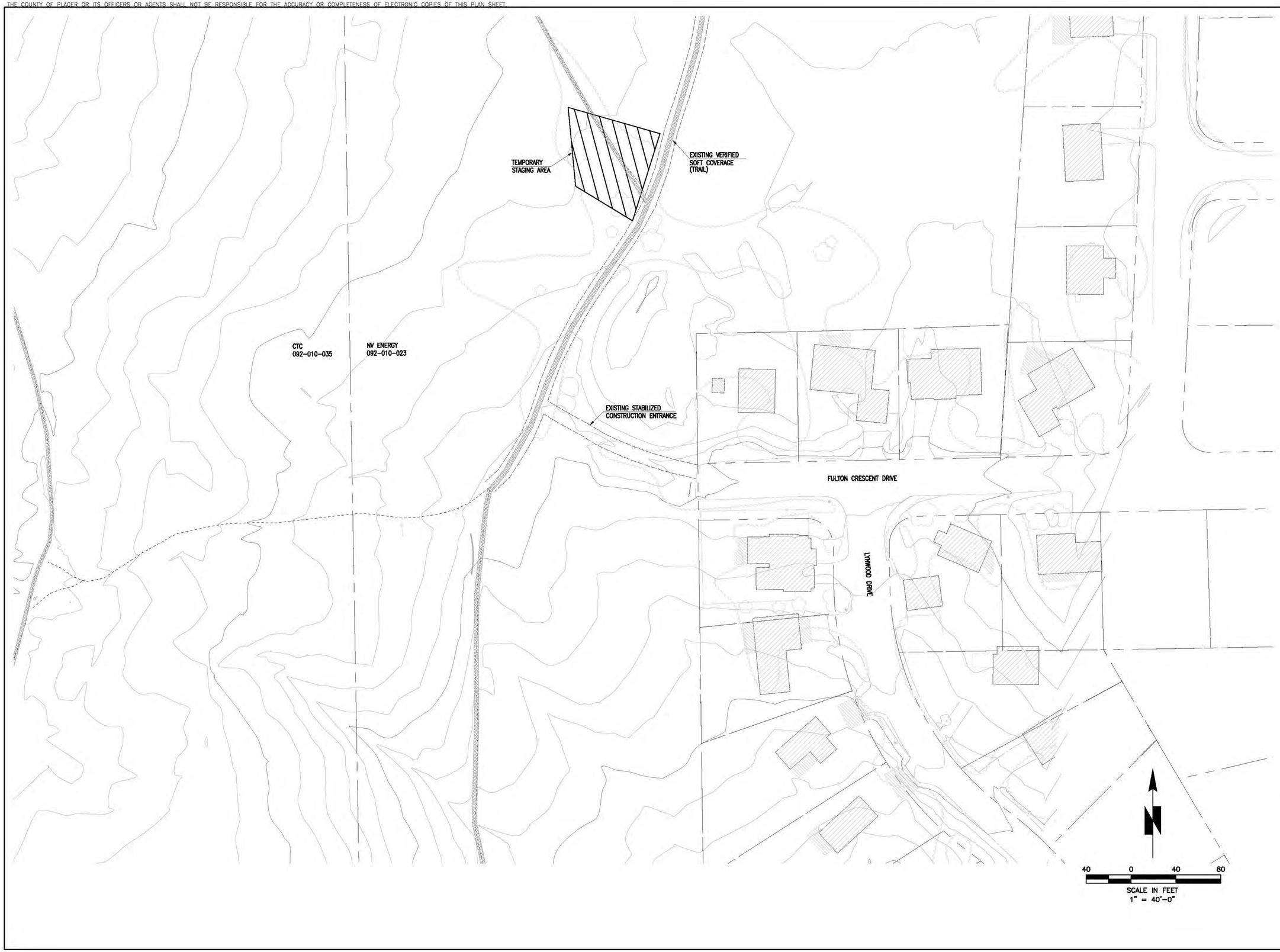

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COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS

FIBER ROLL INSTALLATION ON SLOPES

DATE: JULY, 2005 | NTS | PLATE **C-6**

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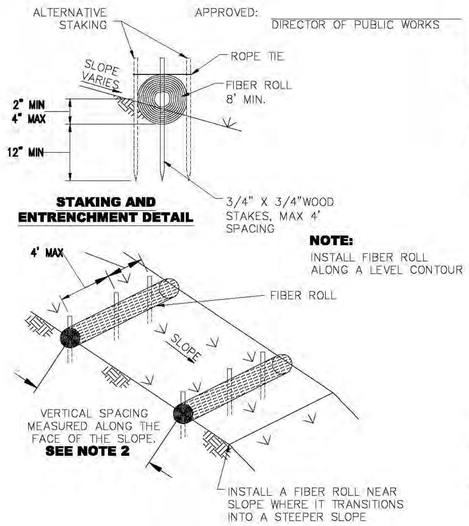

STAKING AND ENTRENCHMENT DETAIL

NOTE:
INSTALL FIBER ROLL ALONG A LEVEL CONTOUR

TYPICAL FIBER ROLL INSTALLATION

NOTES:

1. FIBER ROLLS SHOULD CONSIST OF STRAW, FLAX, WOOD EXCELSIOR OR COCONUT FIBERS BOUND IN A TIGHT TUBULAR ROLL.
2. LOCATE FIBER ROLLS ON LEVEL CONTOURS SPACED AS FOLLOWS:
   - SLOPE INCLINATION OF 4:1 (H:V) OR FLATTER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 20 FT.
   - SLOPE INCLINATION BETWEEN 4:1 AND 2:1 (H:V): FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 15 FT.
   - SLOPE INCLINATION OF 2:1 (H:V) OR GREATER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 10 FT.
3. TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
4. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED, NOT ABUTTED.
5. FIBER ROLLS MAY BE USED FOR DRAINAGE INLET PROTECTION IF PROPERLY ANCHORED.
6. SEDIMENT SHOULD BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-HALF THE SEDIMENT STORAGE DEPTH.

1 / D1 FIBER ROLL
NO SCALE

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS

STABILIZED CONSTRUCTION ENTRANCE

DATE: JULY, 2005 | NTS | PLATE **C-4** (50)

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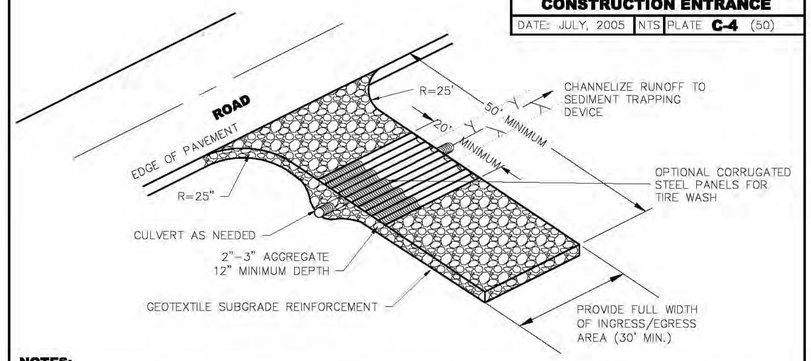
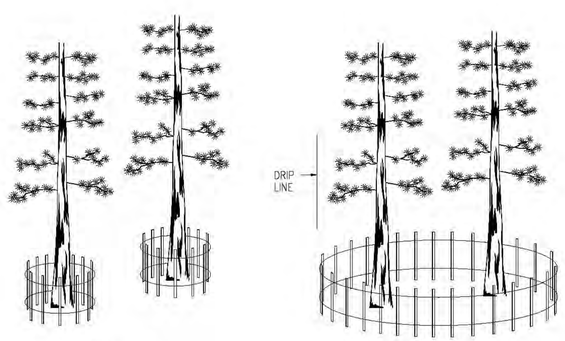


NOTES:

1. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE USED AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS.
2. THE AGGREGATE SHALL BE 2 -3 IN. CRUSHED ROCK.
3. THE ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
4. THE ENTRANCE SHALL BE CONSTRUCTED ON LEVEL GROUND.
5. PERIODIC TOP DRESSING WITH ADDITIONAL STONE SHALL BE PROVIDED TO ENSURE THE INTEGRITY OF THE ENTRANCE DURING CONSTRUCTION.
6. CONTRACTOR TO MAINTAIN CONSTRUCTION ENTRANCE AT ALL TIMES.
7. CRUSHED ROCK MATERIAL SHALL BE ADDED WHEN SURFACE VOIDS ARE NOT VISIBLE.
8. ALL SEDIMENT DEPOSITS ON PAVED ROADWAYS SHALL BE REMOVED WITHIN 24 HOURS.
9. THE CRUSHED ROCK AND GEOTEXTILE SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION.

2 / D1 STABILIZED CONSTRUCTION ENTRANCE
NO SCALE



INCORRECT CORRECT

CONSTRUCTION FENCING NOTES

1. FENCING OF VEGETATION PROTECTION AREAS AND "NON-APPROVED" CONSTRUCTION AREAS SHALL BE AT LEAST 48 INCHES HIGH AND SHALL BE CONSTRUCTED OF METAL POSTS AND EITHER ORANGE CONSTRUCTION FENCING OR METAL MESH FENCING ALSO AT LEAST 48 INCHES HIGH.
2. NO MATERIAL OR EQUIPMENT SHALL ENTER OR BE PLACED IN THE AREAS PROTECTED BY FENCING OR OUTSIDE THE APPROVED CONSTRUCTION AREA WITHOUT PRIOR APPROVAL FROM THE ENGINEER. FENCES SHALL NOT BE MOVED WITHOUT PRIOR APPROVAL.
3. TREE PROTECTION FENCING SHOWN ON PLANS IS NOT TO SCALE.

3 / D1 TREE PROTECTION FENCING
NO SCALE

NOTES:

1. DO NOT USE IN STREAMS, CHANNELS, DRAIN INLETS, OR ANYWHERE FLOW IS CONCENTRATED. DO NOT USE TO DIVERT FLOW.
2. THE MAXIMUM LENGTH OF SLOPE DRAINING TO ANY POINT ALONG THE SILT FENCE SHOULD BE 200 FT OR LESS.
3. SILT FENCE FABRIC SHOULD BE WOVEN POLYPROPYLENE WITH A MINIMUM WIDTH OF 36 IN AND A MINIMUM TENSILE STRENGTH OF 100 LB FORCE.
4. THE FOLLOWING CRITIERIA IS RECOMMENDED FOR SELECTION OF THE FABRIC EQUIVALENT OPENING SIZE:
   A. IF 50% OR LESS OF THE SOIL, BY WEIGHT, WILL PASS THE U.S. STANDARD SIEVE NO. 200, SELECT THE EOS TO RETAIN 85% OF THE SOIL. THE EOS SHOULD NOT BE FINER THAN EOS70.
   B. FOR ALL OTHER SOIL TYPES, THE EOS SHOULD BE NO LARGER THAN THE OPENINGS IN THE U.S. STANDARD SIEVE NO. 70 EXCEPT WHERE DIRECT DISCHARGE TO A STREAM, LAKE, OR WETLAND WILL OCCUR, THEN THE EOS SHOULD BE NO LARGER THAN STANDARD SIEVE NO. 100.
5. CONNECTION/JOINING OF SILT FENCES SHALL BE COMPLETED BY TIGHTLY OVERLAPPING THE ENDS OF THE ROLLS A MINIMUM OF 12" OR BY OVERLAPPING THE END POSTS AND SECURING THE TWO POSTS TOGETHER TIGHTLY WITH PLASTIC WIRE TIES AND/OR STEEL BAILING WIRE (9 GAUGE OR HEAVIER).
6. STAKES SHALL BE SPACED AT 8'-0" MAXIMUM AND SHALL BE POSITIONED ON DOWNSTREAM SIDE OF FENCE.
7. STAPLES USED TO FASTEN THE FENCE FABRIC TO THE STAKES SHOULD BE NOT LESS THAN 1.25 IN. LONG AND SHOULD BE FABRICATED FROM 15 GAUGE OR HEAVIER WIRE. PLASTIC WIRE TIES AND/OR STEEL BAILING WIRE (9 GAUGE OR HEAVIER) MAY BE SUBSTITUTED. NOT LESS THAN 4 STAPLES/TIES SHALL BE USED ON EACH STAKE.
8. THE LAST 8' OF FENCES SHALL BE TURNED UPSLOPE.
9. SILT FENCES SHOULD BE LEFT IN PLACE, REGULARLY INSPECTED, AND MAINTAINED UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.
10. SEDIMENT SHOULD BE REMOVED BEFORE THE SEDIMENT ACCUMULATION REACHES ONE-THIRD OF THE BARRIER HEIGHT.

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS

SILT FENCE

DATE: JULY, 2005 | NTS | PLATE **C-5**

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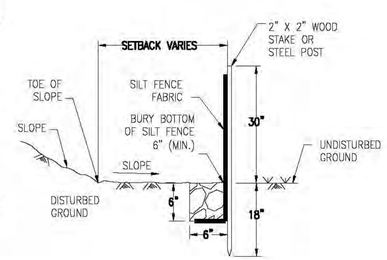

4 / D1 SILT FENCE
NO SCALE

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DOLLAR CREEK SHARED-USE TRAIL
TEMPORARY BMP DETAILS

PROJECT NO. A639.01.14
CONTRACT NO. ---
SHEET NO. D1 OF 27

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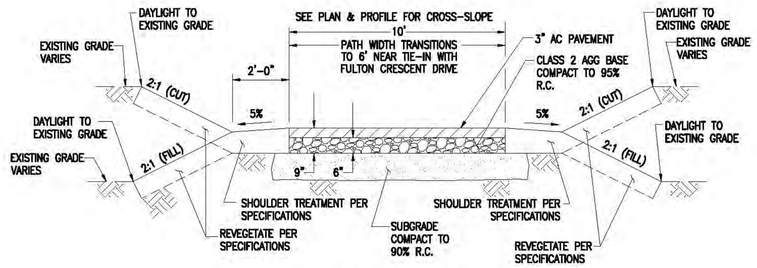
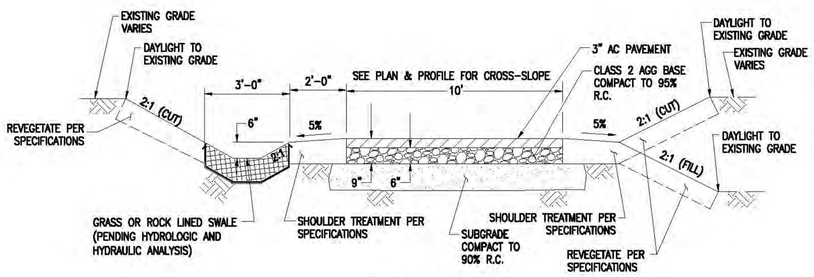


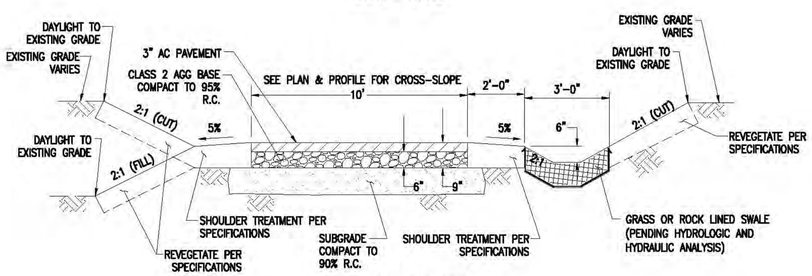
TYPICAL SECTION A

APPLY BETWEEN STATIONS:
12+50 – 22+25
69+50 – 104+00
107+50 – 128+28



TYPICAL SECTION B

APPLY BETWEEN STATIONS:
22+25 – 47+60
48+60 – 65+25
70+90 – 73+00
78+00 – 89+50
104+00 – 107+50

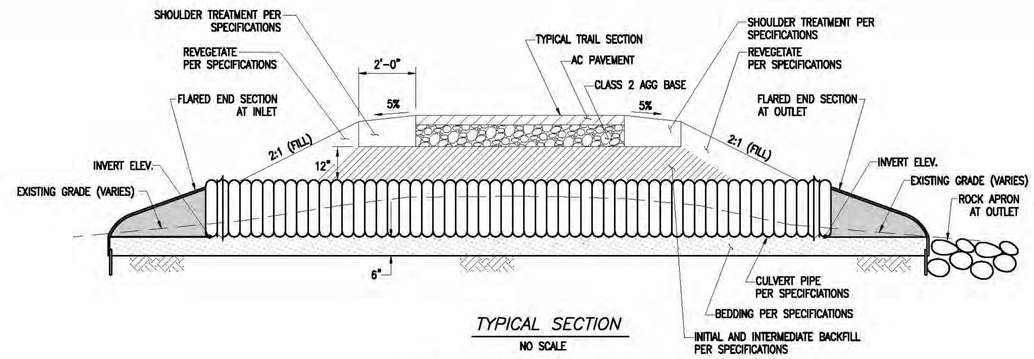


TYPICAL SECTION C

APPLY BETWEEN STATIONS:
65+25– 70+90
73+00 – 78+00

NOTES:
1. FINAL A.C. PAVEMENT AND AGGREGATE BASE SECTION SHALL BE BASED ON SOILS INVESTIGATION (PENDING).
2. SEE PROJECT TECHNICAL SPECIFICATIONS FOR AC PAVEMENT MIX DESIGN, AND REQUIREMENTS FOR PRIME COAT, TACK COAT, AND FOG SEAL.
3. SECTIONAL VIEW IS IN THE DIRECTION OF INCREASING STATION NUMBERS.

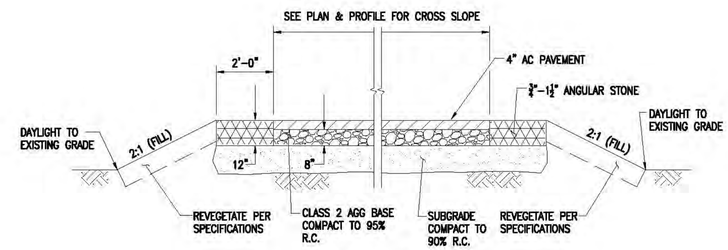
1 / D2 AC PAVEMENT SECTION (TRAIL)
NO SCALE



TYPICAL SECTION

NO SCALE

2 / D2 CULVERT CROSSING
NO SCALE

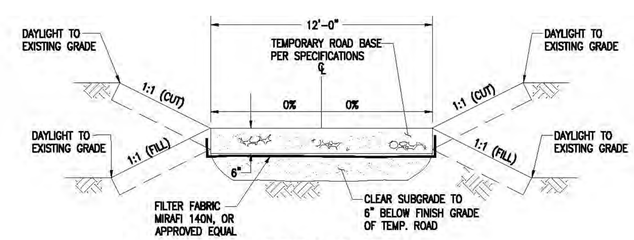


TYPICAL SECTION

NO SCALE

NOTES:
1. FINAL A.C. PAVEMENT AND AGGREGATE BASE SECTION SHALL BE BASED ON SOILS INVESTIGATION (PENDING).
2. EDGE TREATMENT VARIES WHERE AC PAVEMENT EXTENDS TO CONCRETE OR EXISTING AC PAVEMENT, SEE LAYOUT PLAN.
3. SEE PROJECT TECHNICAL SPECIFICATIONS FOR AC PAVEMENT MIX DESIGN, AND REQUIREMENTS FOR PRIME COAT, TACK COAT, AND FOG SEAL.

3 / D2 AC PAVEMENT SECTION (DRIVEWAY, PARKING LOT)
NO SCALE



TYPICAL SECTION

NO SCALE

NOTES:
1. ALL TEMP. ROADS TO BE REMOVED AND THE AREA RE-GRADED TO PRE-PROJECT GRADES AND REVEGETATED PER THE PROJECT SPECIFICATIONS.
2. SEE PROJECT TECHNICAL SPECIFICATIONS FOR TEMP. ROAD SUBGRADE PREPARATION.
3. TEMP. ROAD BASE MAY INCLUDE NATIVE SOILS, CONTINGENT UPON SOILS TESTING TO DEMONSTRATE THAT NATIVE SOILS ARE SUITABLE FOR SUCH USE.

4 / D2 TEMP. ROAD SECTION
N.T.S.

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DESIGNED BY: CS DATE: 06/01/2012
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DEPARTMENT OF PUBLIC WORKS
TAHOE ENGINEERING DIVISION
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KINGS BEACH, CA 96143
(530) 581-6238 (530) 581-6239 (FAX)

DOLLAR CREEK SHARED-USE TRAIL

DETAILS

PROJECT NO. A639.01.14
CONTRACT NO. ---
SHEET NO. D2 OF 27

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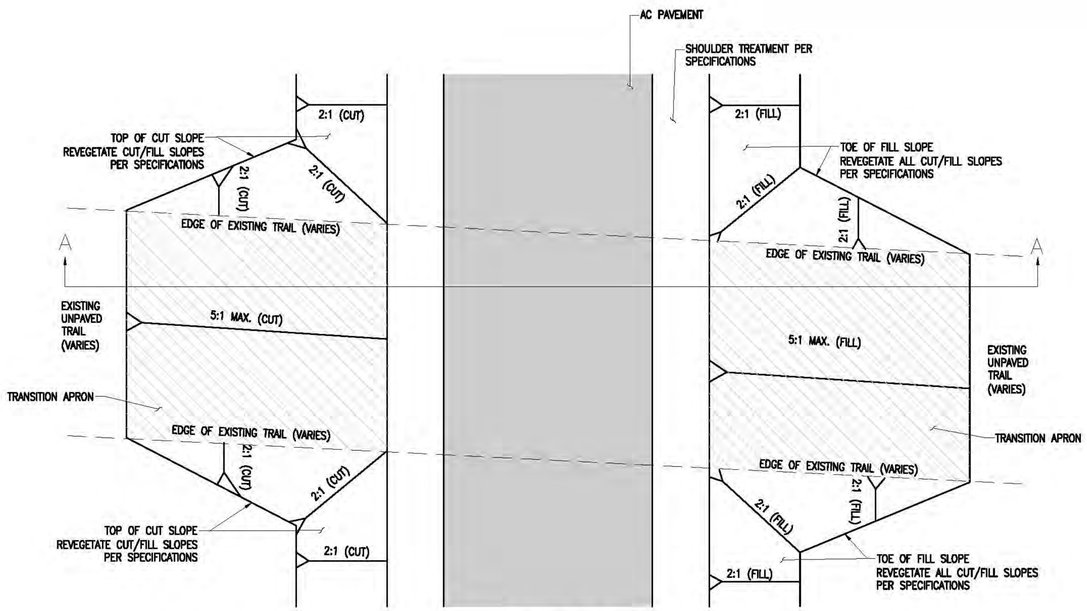
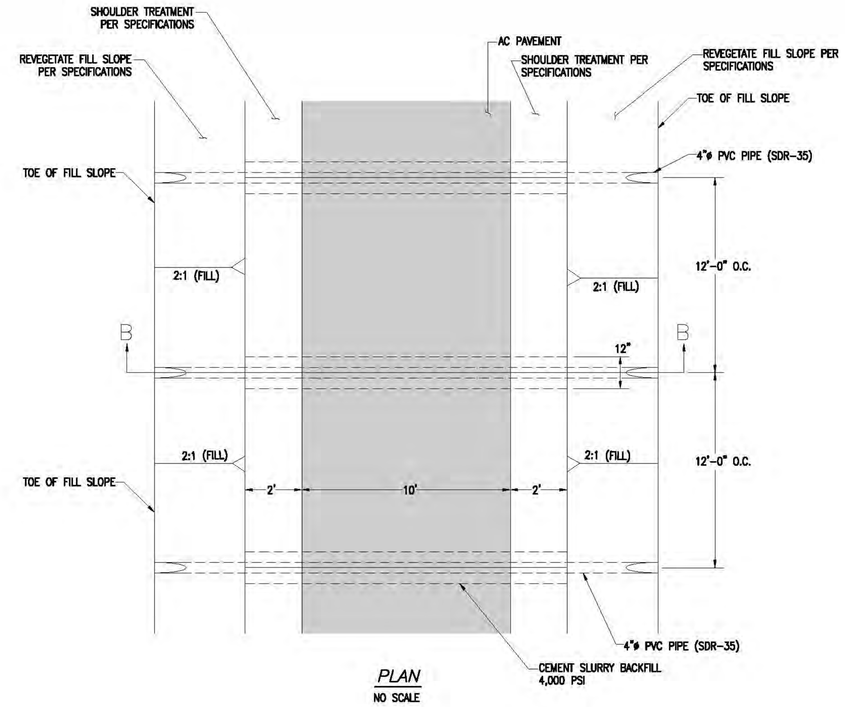


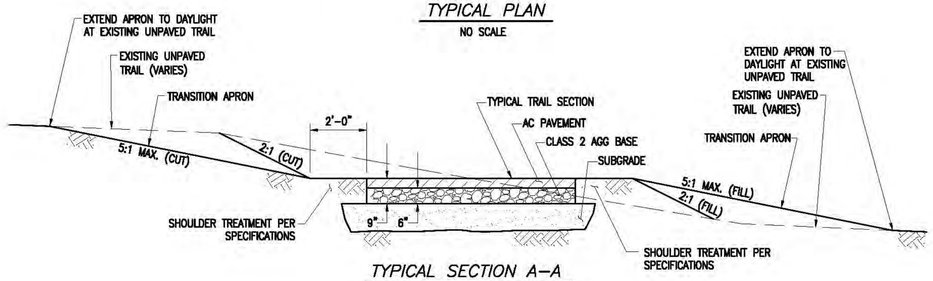
TYPICAL PLAN

NO SCALE



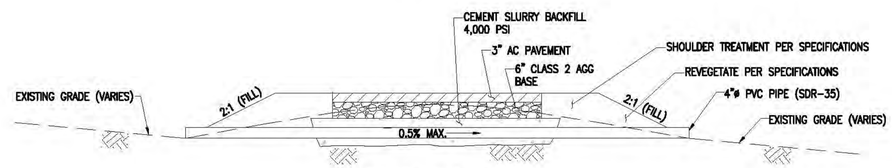
PLAN

NO SCALE



TYPICAL SECTION A–A

NO SCALE



SECTION B–B

NO SCALE

NOTES:

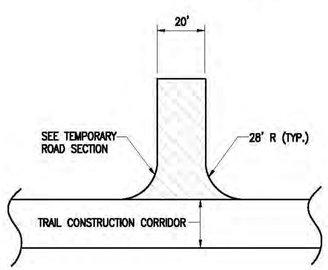
1. SEE PROJECT TECHNICAL SPECIFICATIONS FOR ACCEPTABLE SOILS FOR TRANSITION APRON.
2. SEE PROJECT TECHNICAL SPECIFICATIONS FOR ACCEPTABLE FILL MATERIALS.

1 / D3 TRANSITION APRON

NO SCALE

2 / D3 AC PAVEMENT SECTION (TRAIL – VENTED)

NO SCALE



NOTES:

1. ALL TEMPORARY HAMMERHEAD TURNAROUNDS ARE TO BE REMOVED AT PROJECT COMPLETION. THE AREA IS TO BE RETUNRED TO PRE–PROJECT GRADES AND REVEGETATED PER THE PROJECT SPECIFICATIONS.
2. SEE PROJECT TECHNICAL SPECIFICATIONS FOR TEMP. ROAD SUBGRADE PREPARATION.
3. TEMPORARY HAMMERHEAD TURNAROUND ROAD BASE MAY INCLUDE NATIVE MATERIALS, CONTINGENT UPON SOILS TESTING TO DEMONSTRATE THAT NATIVE SOILS ARE SUITABLE FOR SUCH USE.
4. TEMPORARY HAMMERHEAD TURNAROUNDS MUST BE LOCATED SO AS TO AVOID SPECIAL FEATURES SUCH AS ROCK OUTCROPS AND TREES HAVING A DIAMETER AT BREAST HEIGHT EQUAL TO OR GREATER THAN 30–INCHES. FINAL LOCATIONS FOR TEMPORARY HAMMERHEAD TURNAROUNDS ARE SUBJECT TO REVIEW AND APPROVAL BY THE OWNER'S DESIGNATED PROJECT REPRESENATIVE.

3 / D3 TEMPORARY HAMMERHEAD TURNAROUND

NO SCALE

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DOLLAR CREEK SHARED–USE TRAIL

DETAILS

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. D3 OF 27

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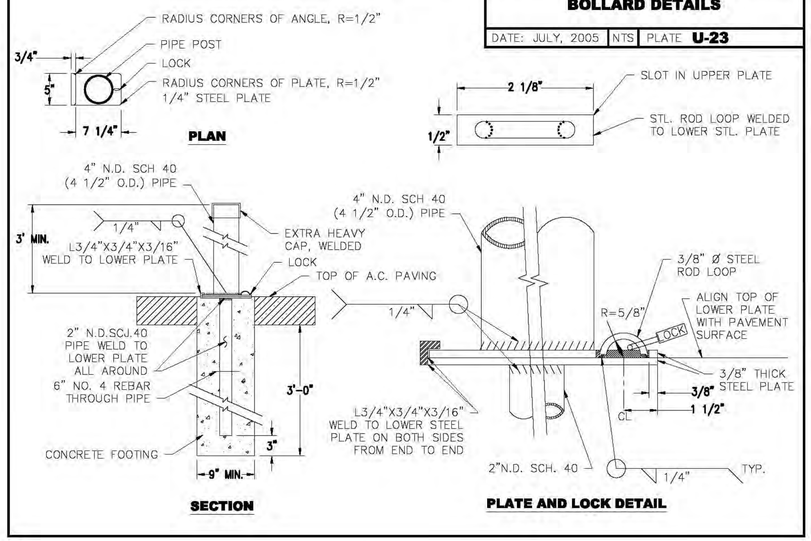
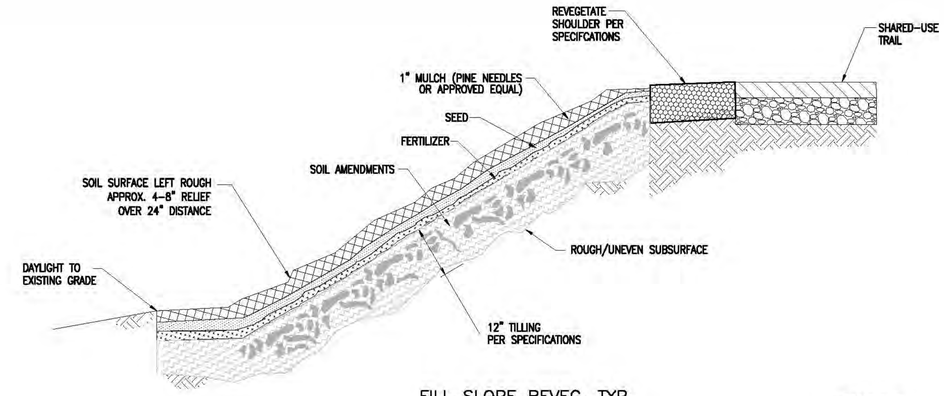
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS

BOLLARD DETAILS

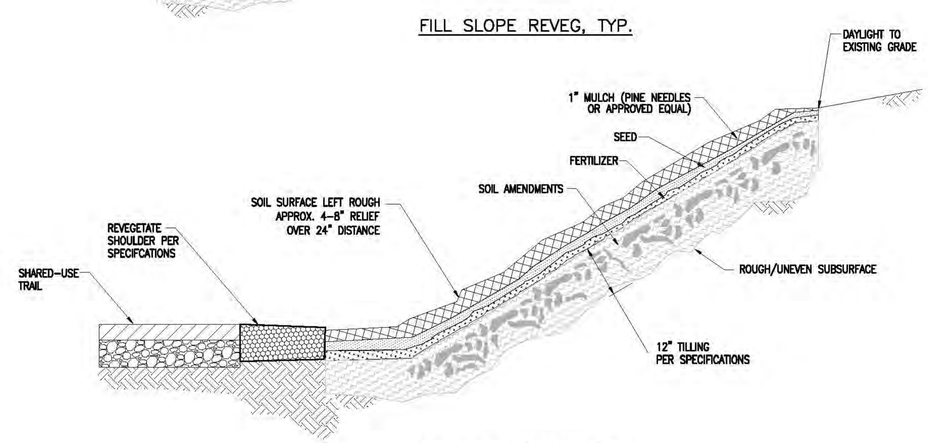
DATE: JULY, 2005 | NTS | PLATE **U-23**



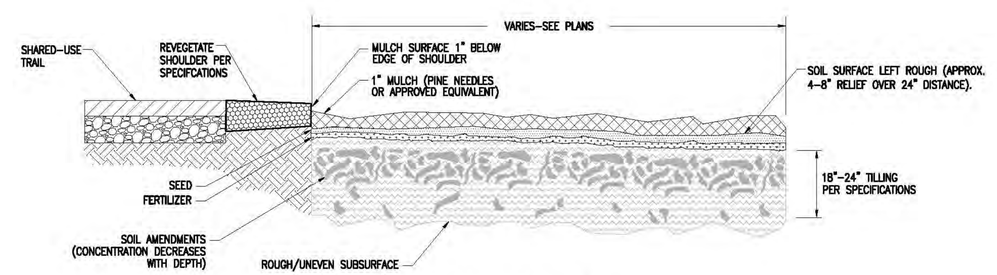
1/D4 BOLLARD
N.T.S.



FILL SLOPE REVEG, TYP.



CUT SLOPE REVEG, TYP.



FLAT AREA REVEG, TYP.

NOTES:
IMPLEMENTATION STEPS FOR REVEG ON FLAT AREAS AND CUT/FILL SLOPES

1. SPREAD SOIL AMENDMENTS
2. TILL SOIL AND INCORPORATE AMENDMENTS TO DEPTH AS DIRECTED BY SPECIFICATIONS
3. SPREAD AND RAKE SEED MIX
4. SPREAD MULCH
5. APPLY TACKIFIER
6. PROVIDE TEMPORARY IRRIGATION

2/D4 REVEGETATION
N.T.S.

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NO. C 53671
EXP. 06/30/13
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DOLLAR CREEK SHARED-USE TRAIL
DETAILS

PROJECT NO.
A639.01.14

CONTRACT NO.

SHEET NO.
D4 OF 27

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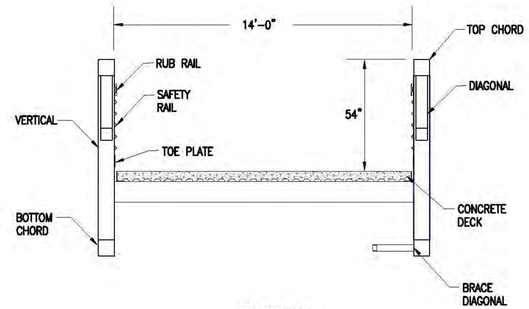
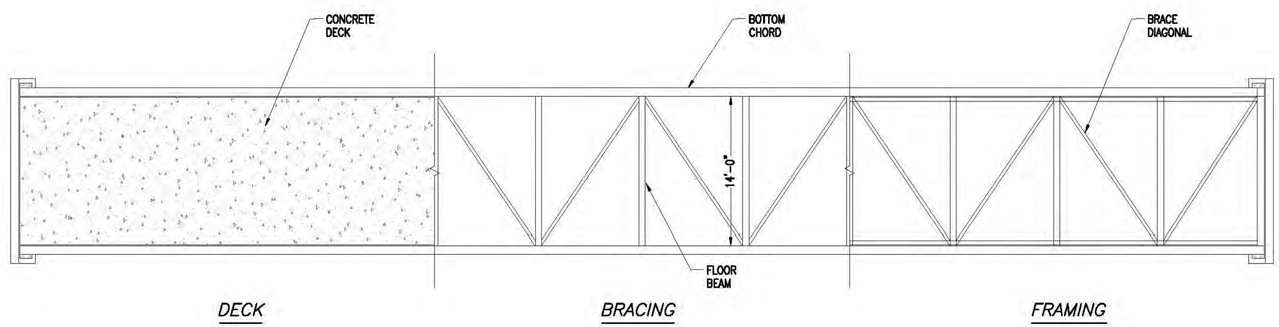
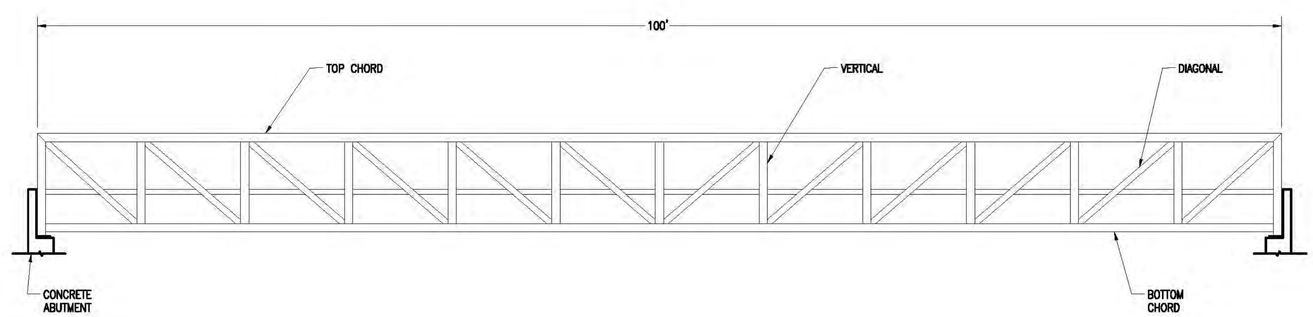


SECTION

SECTION IS SHOWN AT TWO TIMES THE PLAN & ELEVATION SCALE



PLAN



ELEVATION

1 / D5 PREFABRICATED TRUSS BRIDGE

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DOLLAR CREEK SHARED-USE TRAIL

DETAILS

PROJECT NO. A639.01.14

CONTRACT NO. ---

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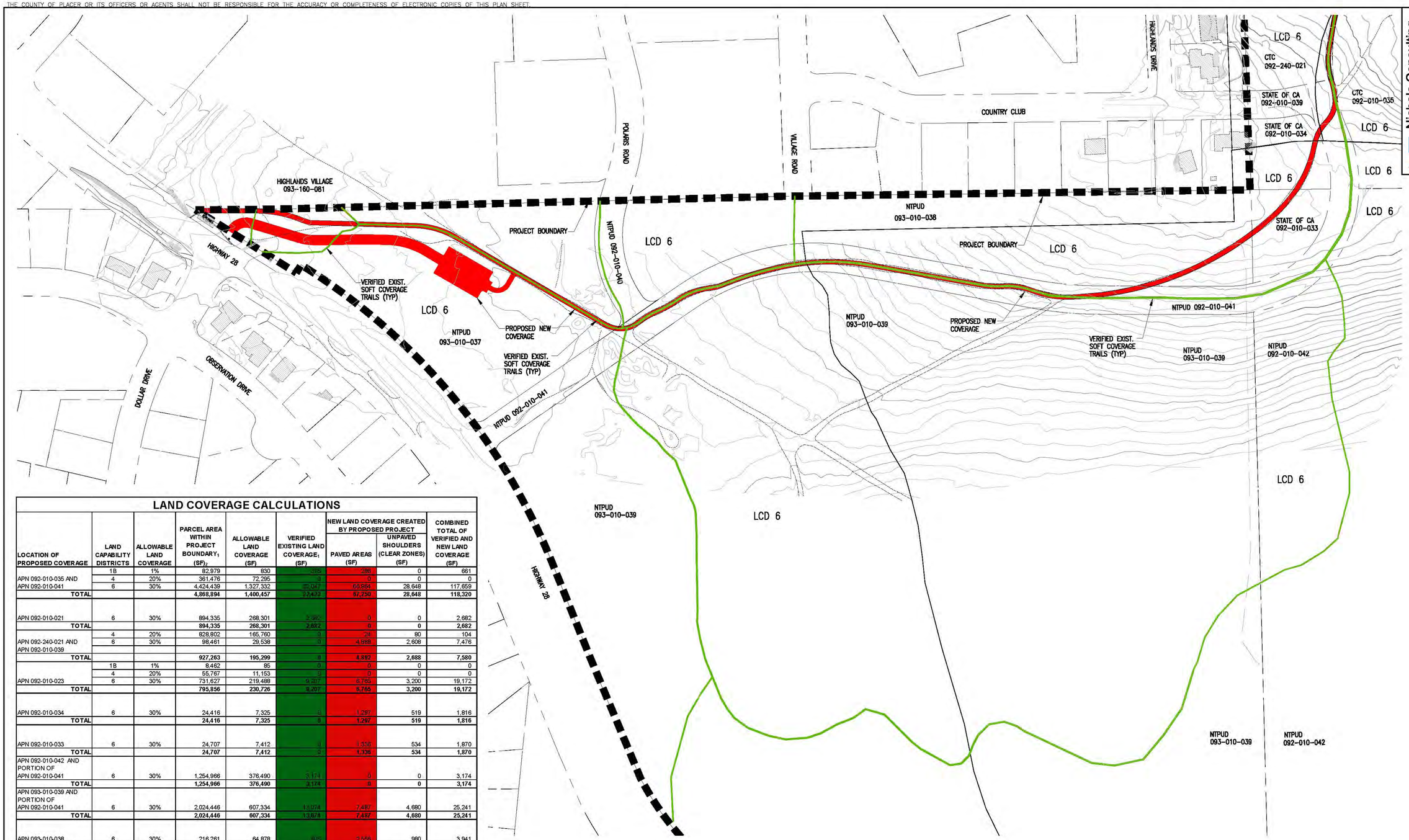

LAND COVERAGE CALCULATIONS

LOCATION OF PROPOSED COVERAGE	LAND CAPABILITY DISTRICTS	ALLOWABLE LAND COVERAGE	PARCEL AREA WITHIN PROJECT BOUNDARY[1] (SF)[2]	ALLOWABLE LAND COVERAGE (SF)	VERIFIED EXISTING LAND COVERAGE[1] (SF)	NEW LAND COVERAGE CREATED BY PROPOSED PROJECT: PAVED AREAS (SF)	NEW LAND COVERAGE CREATED BY PROPOSED PROJECT: UNPAVED SHOULDERS (CLEAR ZONES) (SF)	COMBINED TOTAL OF VERIFIED AND NEW LAND COVERAGE (SF)
	1B	1%	82,979	830	365	296	0	661
APN 092-010-035 AND	4	20%	361,476	72,295	0	0	0	0
APN 092-010-041	6	30%	4,424,439	1,327,332	22,047	66,864	28,648	117,659
TOTAL			**4,868,894**	**1,400,457**	**22,412**	**67,250**	**28,648**	**118,320**
APN 092-010-021	6	30%	894,335	268,301	2,682	0	0	2,682
TOTAL			**894,335**	**268,301**	**2,682**	**0**	**0**	**2,682**
	4	20%	828,802	165,760	0	24	80	104
APN 092-240-021 AND	6	30%	98,461	29,538	0	4,868	2,608	7,476
APN 092-010-039								
TOTAL			**927,263**	**195,299**	**0**	**4,892**	**2,688**	**7,580**
	1B	1%	8,462	85	0	0	0	0
	4	20%	55,767	11,153	0	0	0	0
APN 092-010-023	6	30%	731,627	219,488	9,207	6,765	3,200	19,172
TOTAL			**795,856**	**230,726**	**9,207**	**6,765**	**3,200**	**19,172**
APN 092-010-034	6	30%	24,416	7,325	0	1,297	519	1,816
TOTAL			**24,416**	**7,325**	**0**	**1,297**	**519**	**1,816**
APN 092-010-033	6	30%	24,707	7,412	0	1,336	534	1,870
TOTAL			**24,707**	**7,412**	**0**	**1,336**	**534**	**1,870**
APN 092-010-042 AND PORTION OF APN 092-010-041	6	30%	1,254,966	376,490	3,174	0	0	3,174
TOTAL			**1,254,966**	**376,490**	**3,174**	**0**	**0**	**3,174**
APN 093-010-039 AND PORTION OF APN 092-010-041	6	30%	2,024,446	607,334	13,074	7,487	4,680	25,241
TOTAL			**2,024,446**	**607,334**	**13,074**	**7,487**	**4,680**	**25,241**
APN 093-010-038	6	30%	216,261	64,878	405	2,556	980	3,941
TOTAL			**216,261**	**64,878**	**405**	**2,556**	**980**	**3,941**
APN 093-010-037 AND PORTION OF APN 092-010-040	6	30%	236,459	70,938	3,488	26,149	6,709	36,266
TOTAL			**236,459**	**70,938**	**3,488**	**26,149**	**6,709**	**36,266**
PROJECT AREA TOTALS			**11,267,603**	**3,229,159**	**54,372**	**117,732**	**47,958**	**220,062**

NOTES:

1. VALUES PROVIDED FOR PARCEL AREA WITHIN PROJECT AREA AND VERIFIED EXISTING LAND COVERAGE ARE FROM CARDNO ENTRIX'S JANUARY 2012 REPORT, "FINAL DOLLAR CREEK SHARED-USE TRAIL PROJECT - LAND CAPABILITY AND LAND COVERAGE REPORT - PLACER COUNTY, CALIFORNIA".

2. SF = SQUARE FEET.

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DOLLAR CREEK SHARED-USE TRAIL

LAND COVERAGE - 1

PROJECT NO. A639.01.14

CONTRACT NO. ---

SHEET NO. LC1 OF 27

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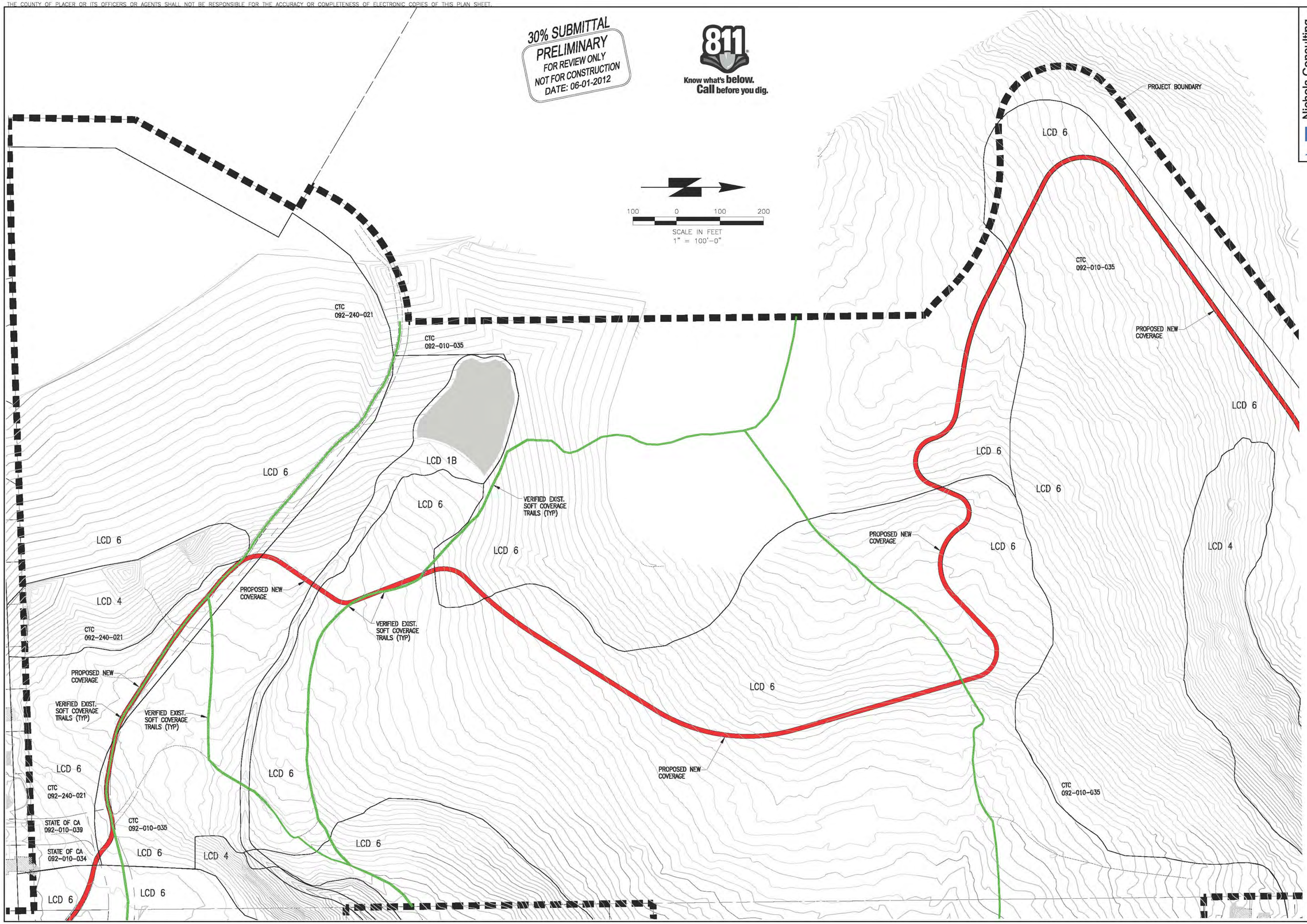

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STATE OF CALIFORNIA

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DOLLAR CREEK SHARED-USE TRAIL

LAND COVERAGE - 2

PROJECT NO.
A639.01.14

CONTRACT NO.

SHEET NO.
LC2 OF 27

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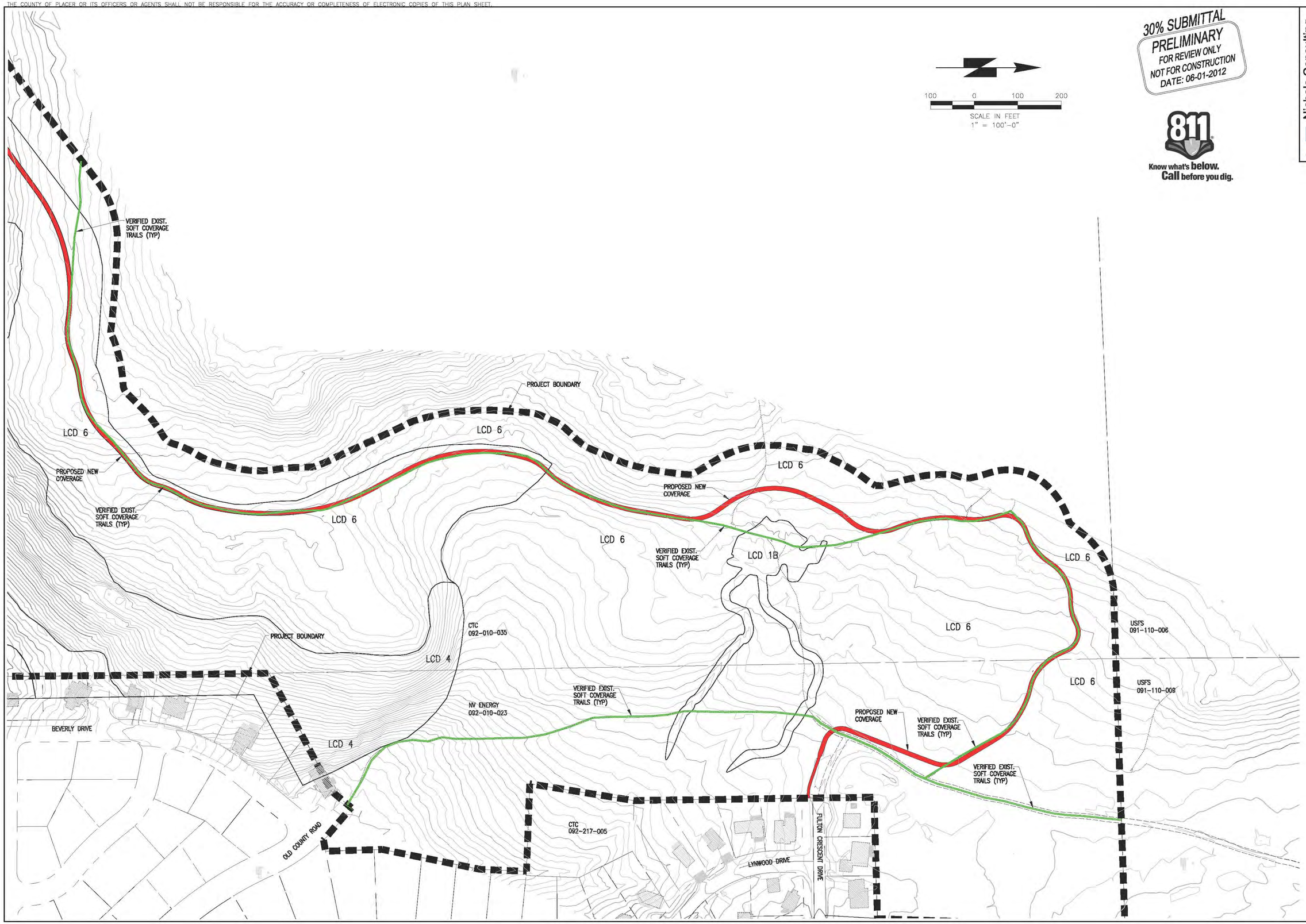

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DOLLAR CREEK SHARED-USE TRAIL

LAND COVERAGE - 3

PROJECT NO.
A639.01.14

CONTRACT NO.

SHEET NO.
LC3 OF 27

TRANSPORTATION PLANNING AND
TRAFFIC ENGINEERING CONSULTANTS

2690 Lake Forest Road, Suite C
Post Office Box 5875
Tahoe City, California 96145
(530) 583-4053 FAX: (530) 583-5966
info@lsctahoe.com • www.lsctrans.com

MEMORANDUM

Date: December 2, 2011

TO: Rob Brueck, HBA

FROM: Gordon Shaw and Jason Briedis, LSC

RE: Proposed Dollar Creek Shared Use Trail Usage Forecasts and Parking Estimates

---

The route of the North Tahoe Dollar Creek Shared Use Trail ("Dollar Creek Trail") is proposed from the eastern terminus of the existing multiuse trail at the top of Dollar Hill to a location near the end of Fulton Crescent Drive (approximately 2.3 miles). A key issue in the evaluation of the project is the level of bicycle and pedestrian activity that would use the facility. As part of the HBA study team, LSC Transportation Consultants, Inc. has been charged with preparing these use forecasts. We have applied the "Tahoe Region Bicycle and Pedestrian Corridor Use Model," as described in the *2010 Lake Tahoe Region Bicycle and Pedestrian Plan* (Tahoe Regional Planning Agency and Tahoe Metropolitan Planning Organization, 2010) to estimate the user demand for the proposed Dollar Creek Trail. This analysis estimates the number of trail users in the following categories:

- Residents biking to the trail from home
- Visitors biking to the trail from lodging
- Residents or visitors driving to the trail to bicycle
- Residents walking to the trail from home
- Visitors walking to the trail from lodging
- Residents or visitors driving to the trail to walk

Use levels are developed for these individual categories in order to reflect the differing levels of use between residents and visitors, as well as the differing factors driving use by those trail users driving to trailheads in the region versus those walking or biking from their home or lodging.

Trail usage estimations are provided for the following three time periods: daily, peak hour, and annual. This methodology was developed in 2009 as part of the Tahoe Regional Planning Agency's (TRPA's) *2010 Lake Tahoe Region Bicycle and Pedestrian Plan* and is calibrated against observed trail use levels in the Tahoe Region. It first identifies the "maximum feasible demand" – the level of use that would be expected if all characteristics of the facility and its setting were optimal. A series of factors are then applied that reflect characteristics that are less

than optimal, to result in estimates of actual, realizable use levels. This methodology calculates the potential usage at the point of maximum use (expected to be in the vicinity of the Dollar Creek crossing). As discussed further below, these estimates are then used to estimate the total trail use along the entire corridor (including those users that do not use the portion of peak demand).

Maximum Feasible Demand

Estimation of the maximum feasible demand is the starting point for estimation of the usage of the Dollar Creek Trail. Maximum feasible demand is estimated separately for each category of users listed above. The estimation of the maximum feasible demand is based on the TRPA TransCAD regional travel demand model. This regionwide model disaggregates the Tahoe Region into a total of 187 “Traffic Analysis Zones” (TAZs) including a total of 14 along the proposed trail and the existing North Shore trail that provides continuity to the west. The “Tahoe Region Bicycle and Pedestrian Corridor Use Model” applies the data from the travel demand model to the specific areas that the proposed multi-use trail would serve.

Bicycle Demand

The TRPA Bicycle Use Model is based upon observed trail usage and trail user characteristics in the Tahoe Basin. For user trips directly from a cyclist’s home or lodging, the bicycle use model considers all trips with an origin or destination in all TAZs within one half mile of the trail. Based on the TRPA regional TransCAD travel demand model, there are 696 daily resident trips on all modes in the corridor of which 12 percent have the potential to be bicycle trips using the Dollar Creek Trail, and 364 daily visitor trips on all modes of which 11 percent have the potential to be bicycle trips using the Dollar Creek Trail. These figures also include reductions in potential trail usage due to the vertical distance that trail users would need to travel from their point of origin to reach the nearest trailhead location. Specifically, as the proposed alignment of the trail results in a difference in elevation exceeding 400 feet from some of the developed portions of the TAZs (such as the residences in Cedar Flat along SR 28), it can be expected that the resulting climb to reach the trail would reduce the potential to use the trail. The portion of each TAZ that is more than a 200 foot elevation difference from a trailhead was identified and used as a basis to reduce potential bicycle-to-trailhead and walk-to-trailhead demand. This results in a maximum feasible demand of 84 one-way daily bicycling trips generated by residents biking to the trail and 40 one-way daily bicycling trips generated by visitors biking to the trail.

Pedestrian Demand

The TRPA Pedestrian Use Model considers the total resident and visitor populations in the corridor area (excluding those pedestrians driving to the facility, as discussed below). The methodology for the Use Model reflects that the maximum feasible daily pedestrian usage of a trail in the Tahoe area is equivalent to 4 percent of the population in the corridor in which the trail is located. The resident and visitor populations in the Dollar Creek Trail corridor (adjusting for those portions of the adjacent TAZs beyond 200 feet in elevation difference, as discussed above) are 900 and 825, respectively. Therefore the maximum feasible daily usage estimates for pedestrians walking to the Dollar Creek Trail as estimated by the model are 36 daily person-trips generated by residents and 33 daily person-trips generated by visitors.

Drive-to-Trail Demand

Demand for trail users driving to the trail is estimated separately from trail users accessing the trail directly by bicycle/pedestrian modes. The estimation procedure is based on trail surveys conducted at existing Class I multiuse trails in the Lake Tahoe area. The maximum feasible daily demand for bicyclists driving to the trail is 192 bicycle trips and the maximum feasible daily demand for pedestrians driving to the trail is 46 walking trips.

Reduction Factors

Once a maximum feasible usage is estimated, it is necessary to adjust the figure based on the specific alignment and characteristics of the trail. Reduction factors are applied to the maximum feasible demand estimate to adjust it for decreases in potential trail use based on the following factors: class, grade, continuity, maintenance, recreational value, and congestion. The reduction factors for each category are estimated and applied separately for bicyclists and pedestrians and separately for each type of trail user, as listed in the first paragraph of this memo (resident, visitor, and drive-to-trail users).

Class

A usage reduction is applied for the class of the proposed new bicycle or pedestrian facility (I, II, or III). The Dollar Creek Trail is proposed to be constructed to at least Class I standards (separated facility) for its entirety. Therefore no reduction in trail usage is assumed for trail classification.

Grade

Reductions are taken from the initial use estimates for the trail based on grades and elevation changes experienced by trail users. No reduction is taken for mostly flat trails with short segments of grades of less than 4 percent. Moderate reductions (10 to 30 percent) are taken for trails with moderate grade sections (between 4 and 8 percent). Greater reductions (20 to 65 percent) are taken for trails with steep grades and large elevation changes (greater than 300 feet).

The proposed alignment for the Dollar Creek Trail traverses some moderately steep terrain and elevation changes over the course of its alignment. The elevation of the trail increases by approximately 200 feet traveling from Dollar Drive to Fulton Crescent Drive. The section of the trail immediately north of Dollar Reservoir climbs over 100 feet through a series of switchbacks. For these reasons, it is reasonable to assume a reduction in trail usage for the grade category based on the “middle” criteria. The grade reduction factors consider that bicyclists as a group are more sensitive to grades than pedestrians. Additionally, visitors and drive-to-trail users are more sensitive to grades than residents biking and walking to the trail. The reduction factors assumed for grades on the Dollar Creek Trail are shown in the middle columns of Table A.

Continuity

"Breaks" in trail continuity tend to reduce the attractiveness of a facility to users. Reductions are taken from the initial use estimates based on continuity of the trail. No reduction is taken for trails with few driveway crossings (less than 4 per mile). The reduction increases based both on the frequency of trail crossings and the volume of traffic encountered at the crossing.

The Dollar Creek Trail is not proposed to cross any roadways, except at the southernmost end of the trail where the Dollar Creek Trail is proposed to connect to the existing Tahoe City to Dollar Hill trail across SR 28. Potential trail users beginning a trip on the new proposed Dollar Creek Trail at the trailhead on SR 28 would not need to cross the roadway. Trail users continuing from the existing North Shore Trail to the proposed Dollar Creek Trail and the reverse would need to cross SR 28. Assuming that the trail crossing is designed to avoid excessive delays to trail users (through signage, signal or median strategies), it is not anticipated that the single trail crossing of SR 28 would significantly deter trail users. Therefore, no reduction in trail usage is assumed for the trail continuity reduction category.

Maintenance

Poor trail surfaces can also reduce use, such as presence of sand, pavement condition, and debris that regularly occur on the trail. As the Dollar Creek Trail will be a new facility, it is assumed that the pavement will be in excellent condition and that the trail will be properly maintained. Therefore, no reduction in trail usage for maintenance issues is applied for the Dollar Creek Trail.

Recreational Value

A reduction factor is applied to the trail usage estimates based on the recreational and scenic value of the trail. Trails located along an especially scenic corridor such as lakefront or river front are considered to have the highest recreational value and no reduction factor is applied for these trails. Trails through urbanized areas are considered to have a low recreational value and are subject to a 15 to 75 percent reduction in usage estimates varying by user type, with users driving to the trail subject to the greatest reduction.

The proposed alignment for the Dollar Creek Trail passes through a largely undeveloped wooded area. The forest through this area has recently been thinned for forest management and fire safety, providing a variety of open and dense woods through the trail corridor. The trail alignment would also cross Dollar Creek near Dollar Reservoir, enhancing the trail experience for recreational users. These characteristics would place the trail into the "high" recreational value category. However, the proposed trail corridor is also located directly behind several residential neighborhoods and some of the houses would be visible from the trail. Therefore, a slight reduction in potential trail usage is assumed for the proposed Dollar Creek Trail. The reductions applied are equal to one third of the reductions from the "high" to the "medium' recreational value category.

Congestion

A final reduction factor is applied to the trail usage estimates based on the trail congestion. Trail congestion is estimated based on the "Shared Off-street Path" level of service methodology in the *Highway Capacity Manual* (Transportation Research Board, 2010). Level of service is based on the number of passing events that occur during the peak hour of trail use. A passing event is defined as either passing a bicycle/pedestrian traveling in the opposite direction or overtaking another bicycle/pedestrian traveling in the same direction. Considering the expected use levels, no significant congestion is expected along the Dollar Creek Trail. However with an estimated 52 one-way trail trips in the peak hour, it is assumed that trail users will experience a small amount of congestion on the trail. Therefore, a slight reduction in potential usage (based on LOS B or C trail conditions) is assumed for trail congestion. The reduction factors assumed for trail congestion are shown in the middle columns of Table A.

Total Reduction

The total reduction applied is a multiplicative total of all of the reduction factors. The reductions factors and trail usage estimates are provided in Table A.

Existing Unpaved Trail Use Levels

In addition to the new users that would be generated by development of the proposed trail, there is biking and hiking activity already in the trail vicinity using the existing network of unpaved trails. Some of this existing activity can be expected to use the new Dollar Creek Trail as part of longer recreational rides. While no detailed data on total existing trail use is available, informal observation of parking and non-motorized access in the area indicates that much of this activity uses the Tahoe Cross Country Ski Area (Tahoe XC) lodge base as a trailhead. To gain an understanding of this current activity, LSC Transportation Consultants, Inc. contacted Kevin Murnane, General Manager of the Tahoe XC center. Over the course of the summer of 2011, Tahoe XC staff counted the number of cars parked in the Tahoe XC lot twice per day. The maximum number of cars parked at any one time was 20. On average, there are 5 to 10 cars at any one time. Mr. Murnane estimates that the average length of stay is on the order of 3 hours. Trail use is highest in the middle of the day, though there is also a definite spike in use in the morning (7 AM – 10 AM), as well as the 4 PM – 7 PM period after work. This information indicates that, over the course of a busy summer day, approximately 30 vehicles park at Tahoe XC to access the trails. Tahoe XC staff also estimates that approximately 70 percent of users are cyclists and the remaining 30 percent are pedestrians. Applying these proportions to the total, 21vehicles carry bicyclists to the area and 9 carry pedestrians. Factoring by the observed average vehicle occupancy (per the Tahoe Coalition of Recreational Providers surveys) of 2.2 and 1.4 for cyclists and pedestrians, respectively, approximately 46 cyclists and 13 pedestrians use the existing trails. Assuming half would use the Dollar Creek Trail as part of their overall trip, the daily one-way person-trips generated on the trail by these existing uses would also equal 46 cyclist trips and 13 pedestrian trips. These numbers of existing unpaved trail users are shown in the middle of Table A and are added to the estimate of bicyclists and pedestrians that would use the proposed paved Dollar Creek Trail. The number of total estimated trips on the proposed Dollar Creek Trail discussed in the following paragraph includes both these existing trips on the

unpaved trails that would use the new paved trail as well as new trips using only the proposed paved Dollar Creek Trail.

Trail Usage at Location of Peak Demand

The result of applying the reduction factors to the maximum feasible demand is the estimated daily trail usage at the location of peak demand along the trail. The point of the trail with the highest forecast usage for bicycle trips is calculated to be the segment north of Country Club Drive, near the Dollar Reservoir. The demand estimate calculations and results for all user categories are provided in Table A. As shown, the estimated daily trail use levels at this location are 251 bicyclist trips and 90 pedestrian trips. Factoring by the proportion of daily use occurring in the peak hour on existing Tahoe Region trails, the estimated peak hour trail usages at these respective locations are 38 bicyclist trips and 14 pedestrian trips.

Trail Usage along Entire Trail

A formula is provided in the *Tahoe Bike/Ped Model Memo* to estimate the trail usage along the entire corridor as a function of the trail usage at the location of peak usage and the location with the least amount of usage. In order to determine the location along the Dollar Creek Trail with the least amount of trail usage, the bicycle and pedestrian demand from each TAZ comprising the Dollar Creek Trail corridor was calculated. The distance from each TAZ center to the five following specific locations on the trail was then measured:

- SR 28 Trailhead
- Country Club Drive
- Dollar Reservoir
- Old County Road
- Fulton Crescent Drive

A function was applied to estimate the proportion of trail users from each TAZ that would still be present on the trail at each of the five locations. This function is based on the average trip lengths and is applied separately for bicycles and pedestrians, considering the respective average one-way trip lengths of 2.4 miles and 1.5 miles and the distance to the location with the greatest use. Overall, considering cyclists and pedestrians using portions of the trail that are not the segment with peak use increases the number of cyclists by 31 percent and the number of pedestrians by 52 percent, over the estimate for the peak location. Applying these factors yields a total of 273 daily one-way bicycle trips, 130 daily one-way pedestrian trips, 42 peak hour one-way bicycle-trips, and 20 peak hour one-way pedestrian trips.

Annual Trail Usage

The annual trail use estimates are shown in the far right column of Table A for the location of peak demand, and in Table B for the use over the entire trail. The annual use estimates are based on observed ratios of annual-to-daily use on similar trails, and assumes that there will be no snow removal on the trail. As reflected in Table B, the total best estimate of annual usage of the Dollar Creek Trail is 67,500 one-way trips.

Parking

Parking demand at points along the Dollar Creek Trail is estimated based on the calculated demand for drive-to-trail users, as well as consideration as to how existing recreationalists would react to the new trail:

- As specified above, the **new** daily drive-to-trail demand for the Dollar Creek Trail is 116 one-way bicycle trips and 28 one-way pedestrian trips (58 bicycle round-trips and 14 pedestrian round-trips). Surveys at existing bicycle/pedestrian facilities in the Lake Tahoe Region indicates that drive-to-bike users have an average vehicle occupancy of 2.2 and that drive-to-walk trail users have an average vehicle occupancy of 1.4. Applying the vehicle occupancy factors to the drive-to-trail demand calculations yields a total of 36 vehicles parking at all trail access locations over the course of a summer day. Considering the average length of stay, approximately a third of this parking demand would be parked in the area at the peak time, or 12 vehicles. The location in which this parking would occur is a function of the proportion of the "drive-to" users that will come from the adjacent neighborhoods versus those arriving via SR 28 from more remote locations. Based on the proportion of the residences within the study corridor but not within convenient walk/bike access, it is estimated that 25 percent of the "drive-to" demand will be generated from within the corridor (such as residents of the lower Ridgewood Road or Terrace Drive areas driving up to the trail) while the remaining 75 percent will be driving to the trail via SR 28. The demand within the corridor was further allocated to access points based upon the number of residences most convenient to each access point, as shown in Table C.

- As discussed above, there are also up to 20 vehicles currently parked at the Tahoe XC area over the course of a summer day associated with **existing** recreational trail users in the area. Based on the relative convenience to the various trail options, it is estimated that a third of this parking (or up to 7 vehicles) would shift to a trailhead parking lot on SR 28, while the remaining 13 would remain at the XC area.

In total, up to 16 vehicles are forecast to park at a SR 28 trailhead, with 14 at the existing Tahoe XC parking lot. The number of new vehicles parking at either the upper end of Old County Road or Fulton Crescent Drive to access the proposed paved Dollar Creek Trail are expected to be minimal, not exceeding 1 new vehicle at any one time. This is in addition to any drivers that currently park at the end of Old County Road or Fulton Crescent Drive to access the existing dirt trails that will choose to continue to park at these informal locations. (While some of these existing drivers parking in the neighborhood to access the dirt trails may shift to the new trailhead parking area on Dollar Hill, others that are particularly interested in mountain biking on dirt trails can be expected to continue to park at these informal access points.) The number of *additional* parked cars at the upper end of Old County Road or Fulton Crescent Drive is expected to be minimal, as (1) the parking area on Dollar Hill will be more evident to visitors and residents driving from other areas, and (2) persons interested in exercise tend to prefer their greatest workout (biking or walking up hill) at the beginning of their exercise period rather than at the end. Drivers approaching the area both from the south and the north on SR 28 would have a shorter drive time to the new trailhead atop Dollar Hill than to either upper Old County Road or Fulton Crescent Drive. The additional parking activity generated by the proposed Dollar Creek Trail at the upper end of Old County Road or Fulton Crescent Drive is expected to consist

only of residents of the lower portions of the Cedar Flat neighborhoods that prefer to avoid the steep climbs up the residential streets to the trail by driving up the hill.

Analysis of Impact on Vehicle Miles Traveled

An analysis was performed to calculate the change in Vehicle Miles Traveled (VMT) that can be expected with the construction of the Dollar Creek Trail. This consists of two factors:

- On one hand, VMT in the vicinity of the trail will be **reduced** by trail users bicycling/walking to the trail and on to their final destination instead of using a vehicle to make the trip. The calculation of the reduction in VMT by trail users not driving to the trail was based on average bicycle and pedestrian trip lengths specified in the *Tahoe Region Bicycle and Pedestrian Use Models* documentation. Average vehicle occupancy for bicycle and pedestrian drive-to-trail users was taken form the TCORP 2007 survey of trail users. The percentage of bike-to and walk-to-trail users that would have otherwise generated a vehicle-trip in the absence of the trail was also obtained from the surveys. The VMT reduction associated with trail users that would have otherwise driven is calculated as the product of the total daily trail users, the percentage that would otherwise have driven and the average trip length, divided by the average vehicle occupancy shown in Table D. VMT reduction associated with this factor is estimated to be 40 over a summer day.

- VMT associated with the Dollar Creek Trail will also be **increased** by trail users driving to the trail. A portion of these drivers (estimated to be 60 percent and 36 percent, for bicyclists and walkers, respectively) are expected to consist of persons making new trips for this purpose, while the remainders are drivers that otherwise would have driven to another similar trail facility. The VMT generated by drive-to-trail users is calculated by taking the product of the number of drive-to-trail users times the percent making new trips times the average length of the vehicle-trip used to access the trail (from TCORP surveys), divided by the average vehicle occupancy. This factor is estimated to increase VMT by 190 per day.

- Finally, as discussed above, VMT will be **decreased** by existing recreational trail users that will shift from parking at the Tahoe XC center to a parking lot at the trailhead on SR 28, thereby reducing their trip length. This factor is calculated to reduce VMT by 33 per day.

On balance, the proposed trail would result in an increase in VMT of 117 vehicle-miles per day. To put this in context, the most recent estimate of VMT over the course of a summer day throughout the Tahoe Basin is estimated to be 1,987,794 (TRPA, 2010). Comparing the two figures, the Dollar Creek Trail would increase basin-wide VMT by 0.006 percent.

REFERENCES

Tahoe Coalition of Recreational Providers (2007). Tahoe Bike Trail Survey. Stateline, Nevada.

Tahoe Regional Planning Agency (2007). *2006 TRPA Threshold Evaluation.* Stateline, Nevada.

Tahoe Regional Planning Agency and Tahoe Metropolitan Planning Organization (2010). *2010 Lake Tahoe Region Bicycle and Pedestrian Plan.* Stateline, Nevada.

Transportation Research Board (2010). *HCM 2010: Highway Capacity Manual.* Washington DC: National Research Council, Transportation Research Board.

TABLE A: Tahoe Region Bicycle and Pedestrian Use Model - Dollar Creek Trail Corridor

At Location of Peak Demand in Corridor

Corridor	Maximum Feasible Demand		Use Factor -- Reduction from Maximum (5): Class	Grade	Continuity	Maint-enance	Recre-ational Value	Conges-tion	Multi-plicative Total	Daily Use Estimate	Peak Hour Factor (6)	Peak Hour Use Estimate	Annual / Daily Factor (7)	Annual Use Estimate
BICYCLISTS														
Resident Bike to Facility	84	Note 1	0.00	0.10	0.00	0.00	0.03	0.13	0.24	64				
Visitor Bike to Facility	40	Note 1	0.00	0.30	0.00	0.00	0.06	0.06	0.38	25				
Bicyclists Drive to Facility	192	Note 2	0.00	0.30	0.00	0.00	0.10	0.04	0.40	116				
Existing Unpaved Trail Users										46				
Total -- Best Estimate										251	0.153	38	146.5	37,000
High End of Estimate Range										*314*		*48*		*46,250*
Low End of Estimate Range										*188*		*29*		*27,750*
PEDESTRIANS														
Resident Walk to Facility	36	Note 3	0.00	0.10	0.00	0.00	0.03	0.10	0.21	29				
Visitor Walk to Facility	33	Note 3	0.00	0.30	0.00	0.00	0.08	0.05	0.39	20				
Pedestrians Drive to Facility	46	Note 4	0.00	0.30	0.00	0.00	0.09	0.05	0.39	28				
Existing Unpaved Trail Users										13				
Total -- Best Estimate										90	0.153	14	146.5	13,000
High End of Estimate Range										*135*		*21*		*19,500*
Low End of Estimate Range										*45*		*7*		*6,500*
TOTAL -- Best Estimate										341		52		50,000
High End of Estimate Range										*449*		*69*		*65,750*
Low End of Estimate Range										*233*		*36*		*34,250*

Notes

1. See *Tahoe Region Bicycle and Pedestrian Use Model* Memo, Table G.
2. Based on an average of 480 for corridors with an existing Class I facility and engineering judgement of demand elasticity.
3. See *Tahoe Region Bicycle and Pedestrian Use Model* Memo, Table J.
4. Based on an average of 135 for corridors with an existing Class I facility and engineering judgement of demand elasticity.
5. See *Tahoe Region Bicycle and Pedestrian Use Model* Memo, Table E.
6. 0.153 for Class I facility, 0.096 for Class II facility
7. 172.8 for facilities maintained year-round, 146.5 for facilities without snow removal.

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TABLE B: Estimated Use Over Entire Dollar Creek Trail

	Daily Use Estimate	Peak Hour Factor (6)	Peak Hour Use Estimate	Annual / Daily Factor (7)	Annual Use Estimate
BICYCLISTS					
Total -- Best Estimate	331	0.153	51	146.5	48,500
High End of Estimate Range	*414*		*63*		*60,625*
Low End of Estimate Range	*248*		*38*		*36,375*
PEDESTRIANS					
Total -- Best Estimate	131	0.153	20	146.5	19,000
High End of Estimate Range	*197*		*30*		*28,500*
Low End of Estimate Range	*66*		*10*		*9,500*
TOTAL -- Best Estimate	462		71		67,500
High End of Estimate Range	*610*		*93*		*89,125*
Low End of Estimate Range	*314*		*48*		*45,875*

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TABLE C: Dollar Creek Trail Parking Demand

	Daily Demand [1,2]	Average Vehicle Occupancy [3]	New Parking Demand
Drive-to-Bike Trail Users	116	2.2	26
Drive-to-Walk Trail Users	28	1.4	10
Total Daily			36
Peak-Period-to-Day Factor			0.333
Peak Hour Parking Demand			***12***

	Peak Hour Parking Demand			
Location	New Distribution	New Parking Demand	Existing Parking Demand [4]	Total Parking Demand
SR 28 Trailhead	75%	9	7	16
Country Club Drive (Tahoe XC)	14%	1	13	14
Old County Road	10%	1	0	1
Fulton Crescent Drive	1%	1	0	1

NOTE 1: Calculation from application of *Tahoe Region Bicycle and Pedestrian Use Model* for Dollar Creek Trail.
NOTE 2: Daily demand is shown as one-way trips. It is assumed that a drive-to-trail user will complete a round-trip.
NOTE 3: From TCORP 2007 surveys of users of Tahoe recreational trails.
NOTE 4: Based on results of parking counts and observations, per conversation with Tahoe XC staff.
Source: LSC Transportation Consultants, Inc.

TABLE D: Analysis of Daily Vehicle-Miles of Travel Impacts of Dollar Creek Trail

	Bicyclist	Pedestrian	***Total***
VMT Reduction Associated with Trail Users Not Driving to Trail Who Otherwise Would Have Driven			
Daily Users Not Driving to Trail [1]	89	49	
Percent Would Have Driven [2]	27%	27%	
Avg Trip Length [3]	2.4	1.5	
Avg Vehicle Occupancy [2]	2.2	1.4	
Change in VMT	-26	-14	***-40***
VMT Generated by Recreational Trail Users Driving to Trail			
Daily Users Driving to Trail [1]	116	28	
Percent of Trail Users Driving to Trail Making a New Trip	60%	36%	
Average Auto Trip Length [2]	4.9	4.9	
Avg Vehicle Occupancy [2]	2.2	1.4	
Change in VMT	155	35	***190***
VMT Reduction Associated with Existing Trail Users Shifting to SR 28 Trailhead			
Daily Users Driving to Trail	21	9	
Avoided Trip Length (Round Trip)	-1.1	-1.1	
Change in VMT	-23	-10	***-33***
Total Change in VMT	129	21	***117***

NOTE 1: Calculation from application of *Tahoe Region Bicycle and Pedestrian Use Model* for Dollar Creek Trail.

NOTE 2: From TCORP 2007 surveys of users of Tahoe recreational trails.

NOTE 3: Average trip length, as specified in the *Tahoe Region Bicycle and Pedestrian Use Model* documentation.

Source: LSC Transportation Consultants, Inc.

Dollar Creek Shared Use Trail – Preliminary Revegetation Plan

Scope. Areas to receive revegetation treatments shall include **all** areas disturbed by construction activities associated with the Dollar Creek Shared-Use Trail (hereinafter referred to as the Project). The revegetation materials and methods specified for use in the Project Technical Specifications and Construction Drawings (Pending) shall conform to the requirements set forth in this document. Any alterations in materials and/or methods from those specified in the Project Technical Specifications and Construction Drawings will be subject to review and approval by Placer County's Designated Project Representative (DPR) prior to their use. All required certificates and samples shall be submitted prior to performing revegetation treatments. The revegetation work shall consist of all labor, materials, equipment, and incidentals for revegetation of all areas disturbed by construction activities as described in the project Technical Specifications and Construction Drawings, and shall include site preparation, seeding, and application of amendments, mulch, erosion control blankets, and temporary irrigation. The stream environment zone (SEZ) revegetation plan is pending.

Submittals.

1. Within 10 business days following the award of contract, Contractor shall submit a revegetation schedule to Placer County's DPR for review and approval.

2. Within 20 business days following the award of Contract, Contractor shall submit to Placer County's DPR the results of soils testing.

3. Within 30 business days following the award of Contract, Contractor shall submit to Placer County's DPR the written documentation that they have ordered the specified revegetation materials. Such documentation shall include letters from the suppliers of revegetation materials for the Project including the following information:

   - Name and contact information for the supplier
   - A list of the materials ordered
   - Quantities of materials ordered
   - Expected delivery date of materials to the Project site

   It shall be the Contractor's responsibility to inform Placer County's DPR of any proposed substitutes for revegetation materials. Proposed substitutions shall be subject to review and approval by Placer County's DPR prior to their use.

4. At least 10 business days prior to the delivery of revegetation materials to the Project site, Contractor shall submit the following information to Placer County's DPR:

   - Name and contact information for the supplier
   - A list of the materials to be delivered
   - Material labels for seed, mulch, and erosion control blanket to be delivered (labels for seed shall show seed vendor's certification for required seed mixtures and all requirements listed in **Revegetation Seed Mix** Section).

- Quantities of materials to be delivered
- Date of delivery
- Manufacturer's shipping, storing, and placement recommendations

5. Within 24-hours after compaction testing has occurred, Contractor shall submit compaction test results to Placer County's DPR for review.

6. During temporary irrigation period, Contractor shall submit an irrigation log on a monthly basis to Placer County's DPR.

Inspections. Prior to implementing revegetation treatments, Contractor shall stake the limits of revegetation activities (types and boundaries) and shall request inspection of the staked areas by Placer County's DPR. Contractor shall schedule field inspections of completed revegetation work by Placer County's DPR as part of the process to obtain notices of substantial completion and final completion.

Site Preparation and Grading. Contractor shall limit soil disturbance to those areas that require treatment. Contractor shall protect all existing vegetation within the project limits that is not designated for removal, especially mature shrubs and trees. Under no circumstances shall any disturbance be allowed to occur outside the work areas identified on the construction drawings or in the field by Placer County's DPR. Any vegetation damaged during construction shall be repaired or replaced and any areas disturbed or compacted during construction shall receive full soil conditioning and revegetation treatment at the Contractor's expense as directed by Placer County's DPR.

Revegetation Treatment Summary. Contractor shall conduct revegetation activities in the order outlined below. The Contractor shall notify Placer County's DPR not less than 72 hours in advance of revegetation work and shall not begin the work until the prepared treatment areas have been approved.

Contractor shall provide revegetation treatments on all areas disturbed by construction activities associated with the Project, including fill/cut slopes and temporary construction access and staging areas. Contractor shall implement the following Revegetation Treatment Types:

Revegetation Type A:
Revegetation Type A shall be applied on disturbed land areas (excluding areas with Land Capability District 1b - Stream Environment Zones) having surface slopes equal to or flatter than 2:1 (Horizontal:Vertical). Contractor shall carry out the following activities in all areas to receive Revegetation Type A:

- Collect and analyze soil samples
- Remove and store topsoil (depending on quality of topsoil)
- Grade and excavate
- Till soil to depth of:
    - 18-inches in areas having surface slopes less than 5:1 (20%)
    - 12-inches in areas having slopes between 5:1 and 3:1 (20%-33%)
    - 6-inches in areas having slopes between 3:1 and 2:1 (33%-50%)

- Test for compaction
- Apply salvaged topsoil OR soil amendment to 4 inches
- Prepare surface
- Apply seed to depth of ¼ inch
- Mulch
- Irrigate

Revegetation Type B:
Revegetation Type B shall be applied on disturbed land areas (excluding areas within Land Capability 1b - Stream Environment Zones) having surface slopes steeper than 2:1 (Horizontal:Vertical). Contractor shall carry out the following activities in all areas to receive Revegetation Type B:

- Collect and analyze soil samples
- Remove and store topsoil (depending on quality of topsoil)
- Grade and excavate
- Till soil to depth of 12 inches
- Test for compaction
- Apply salvaged topsoil OR soil amendment to 4 inches
- Prepare surface
- Apply seed to depth of ¼ inch
- Install erosion control blankets
- Irrigate

Revegetation Type C:
Revegetation Type C shall be applied on land areas within Land Capability District 1b – Stream Environment Zones. Contractor shall carry out the following activities in all areas to receive Revegetation Type C: (PENDING)

Soil Sample. Contractor shall collect soil samples at regular intervals of no less than every 1,000 feet along the proposed Trail to provide representatives soils samples from areas to receive Revegetation Treatments A and B. Contractor shall send those samples to a laboratory for analysis as specified below. Tools used to collect the soil sample shall be stainless steel or chrome plated to avoid contamination of the sample. Sample shall be send to the laboratory in a clean, dry plastic container. The samples shall be tested for organic matter, Phosphorus, Potassium, Magnesium, Calcium, Sodium, pH, Hydrogen, Cation Exchange Capacity, Nitrogen, Sulfur, Zinc, Manganese, Iron, Copper, Boron, Excess Lime, Soluble Salts, TKN, NO_2, Total P, and Ortho P. Contractor shall submit the results of soils analysis to Placer County's DPR in order to determine the appropriate fertilizer type and application rate to optimize soil conditioning and revegetation efforts. The fertilizer shall be subject to approval in writing by Placer County's DPR prior to application.

Topsoil removal and storage. In areas where grading and excavation is required, Contractor shall remove topsoil to an approximate depth of 6-inches below the existing ground surface and store the topsoil. Topsoil is defined as the mulch, duff, and top organic

matter layer of the soil. Placer County's DPR will identify both the extent and depth of topsoil that will be removed. The requirements surrounding removal and storage of topsoil include:

- Topsoil shall be removed and stored with a minimum of handling.
- Topsoil shall be stored for as short a time period as possible and shall be replaced immediately after grading and excavation is finished.
- Any areas negatively affected by the storage of topsoil shall be treated following the specifications outlined in this document at the Contractor's expense.

Grading and Excavation. Some areas shall require reshaping of terrain prior to revegetation as noted on the Construction Drawings or in the field by Placer County's DPR. Grading and excavation shall take place prior to the revegetation activities described below. Contractor shall conduct Grading and Excavation activities in accordance with the applicable section(s) of the Project Technical Specifications and the Construction Drawings.

Soil Tilling. Prior to surface treatments, Contractor shall loosen disturbed soil or decompact areas unless otherwise noted. In areas receiving Revegetation Types A and B, Contractor shall till the soil to a minimum depth of 12-inches. Contractor shall replace any topsoil removed after grading, excavation, and tilling are completed, unless otherwise directed by Placer County's DPR.

Contractor shall notify Placer County's DPR at least 5 business days before tilling the soil. Contractor's proposed method of loosening the soil shall be subject to review and approval by Placer County's DPR. After soil tilling has occurred, construction equipment shall not travel on tilled areas. If tilled areas are recompacted by construction equipment, Contractor shall reloosen the soil in those areas at his/her expense.

Mechanical Tilling. Placer County's DPR will determine in the field where mechanical tilling is appropriate. Mechanical soil tilling will not be allowed where Placer County's DPR determines that mechanical tilling is inappropriate. Soil shall be loosened mechanically using a backhoe or excavator equipped with a bucket capable of loosening the soil to the appropriate depth. A bucket equipped with cutting teeth may be used if soil can be tilled appropriately without pulverizing it. Soil shall be loosened in such a way that clods remain and soil is not reduced to powder.

Existing Roots. Exceptions to the tilling depth requirements described above will be made in areas where shrub or tree roots may be negatively impacted by tilling. Tree roots and existing plants shall be avoided wherever possible during tilling activities. No mechanical loosening shall take place within the drip line of mature trees or shrubs. If tree roots are encountered, tilling shall occur by hand using tools such as pick mattocks or Pulaskis or an equivalent tool to a depth of approximately 8-inches.

Compaction Testing. Following soil tilling activities, Contractor shall test for compaction using a cone penetrometer or equivalent tool. Contractor shall provide the results of compaction testing to Placer County's DPR within 24 hours following the test. If an area requires a force greater than 200 pounds per square inch in order to drive the tool a depth of 12-inches, that area will be retreated following the methods described in **Soil Tilling** section.

Soil Amendment Application. Contractor shall apply soil amendments to a depth of 4-inches and shall replace topsoil where possible. Amendments are dependent on soil test laboratory results. If compost is necessary as determined by laboratory results, it shall have the following characteristics:

1. 30-65% organic matter on dry weight basis
2. Less than 0.5% undesirable materials such as plastic, glass, metal, or rocks on dry weight basis
3. 30-60% moisture content
4. pH 6.0-8.5

Compost shall be accompanied by a lab analysis of content, and shall be approved by Placer County's DPR prior to use.

If fertilizer is necessary in addition to compost, as determined by the laboratory tests, Contractor shall apply it according to the manufacturer directions. If any soil nutrient deficiencies were determined by laboratory tests, Contractor shall apply organic fertilizer to compensate. Proposed fertilizer shall be subject to review and approval by Placer County's DPR prior to application, but shall likely be a slow release fertilizer similar to Biosol 6-1-3, or approved equal.

Surface Preparation. Prior to seed application, Contractor shall lightly smooth tilled areas by rake in such a way that some surface roughness is attained. The result shall be a soil surface that mimics natural conditions, with relief between 3- and 6-inches over a 24-inch distance. Tilled areas will be subject to inspection and approval by Placer County's DPR prior to any further revegetation activities.

Revegetation Seed Mix. (See table, below)

Botanical Name	**Common Name/Variety**	**Pure Live Seed lbs/acre**
Elymus elymoides ssp. *Elymoides*	Squirreltail (high elevation collection)	35
Bromus carinatus	Mokelumne or El Dorado Brome	20
Achnatherum occidentale	Western Needlegrass	10
Purshia tridentate	Antelope Bitterbrush	10
Arctostaphylos patula	Greenleaf manzanita (high elevation collection)	5
Eriogonum umbellatum	Sulfur-flower buckwheat	3
Linum lewisii	Blue Flax	3
TOTAL PLS pounds per acre		**86**

All seed shall be in conformance with the California Department of Food and Agriculture requirements regarding noxious weeds, and shall be delivered to Placer County's DPR for on-site approval.

Seed shall be ordered pre-mixed and shall be certified weed-free. Seed shall come from sources within 50-miles of the Project area and within 1,000 vertical feet of the project elevation. Exceptions may be made for non-local, commercially available native grass seeds that originate from locations more than 50-miles from the project. Seed shall be of a quality which has a minimum Pure Live Seed as specified. Weed seed shall not exceed 0.5 percent of the pure live seed and inert material. Any changes to the seed mixes described in the **Table** above must be approved in writing by Placer County's DPR. The seed mix shall be delivered to Placer County's DPR in sealed and clearly marked bags that indicate:

1. Species
2. Purity
3. Percent germination
4. Vendor's guarantee
5. Dates of tests
6. Content of Pure Live Seed (PLS).

Prior to application, the Contractor shall provide a letter of certification, original Association of Official Seed Analysts (AOSA) seed test results, and calculations of PLS content to Placer County's DPR.

Seeding. Contractor shall conduct seeding in the fall prior to the first snow unless otherwise approved by Placer County's DPR. Soils shall be moist to two inches unless otherwise approved by Placer County's DPR. Seed shall not be planted unless the seed mix and soil preparation activities have been approved by Placer County's DPR.

The seeding process shall occur in the following order:

1. Contractor shall apply seed mix by hand or hand applicator at the rates listed in the Revegetation Seed Mix Table and shall spread the seed in a uniform manner.
2. Following seed application, Contractor shall lightly rake the soil surface so the seeds are tilled in to a depth of one-quarter to one-half inch (¼ - ½").
3. Revegetation Type A areas: Contractor shall spread mulch over the seeded area to a depth of two inches (1" to 2" depending on application method). Mulch used shall consist of the material and following the procedure described in the **Mulch** section.
4. Revegetation Type B areas: Contractor shall install erosion control blankets using the blanket described in and following the instructions in the **Erosion Control Blanket** section.
5. Revegetation Types A and B, Contractor shall provide irrigation in accordance with the **Temporary Irrigation System** Section.

Mulch. Mulch shall be clean and free of rocks, garbage, or other unsuitable material. Mulch can be collected on site and shall consist of pine needles and related duff material. Mulch shall contain less than ten percent (10%) large pieces such as twigs and pinecones and less than ten percent (10%) decomposed organic matter. Mulch shall contain less than one percent (1%) mineral soil. If garbage occurs, it shall represent less than one-half percent (0.5%) of the total volume and shall be removed to the satisfaction of Placer

County's DPR. Mulch materials must be approved in writing by Placer County's DPR prior to application.

In areas receiving Revegetation Type A, Contractor shall be spread mulch after seeding. Mulch may be applied by hand or blower and must be applied in such a way as to achieve an even layer. If applied by hand, mulch depth shall equal approximately two inches (2"), and if applied by blower, mulch depth shall equal approximately one inch (1"). Mulch shall cover ninety-eight percent (98%) of all bare areas. Placer County's DPR shall be notified 5 business days prior to mulch application. Mulched areas shall be approved on-site by Placer County's DPR after application and before further revegetation activities.

Erosion Control Blanket. In areas receiving Revegetation Type B, Contractor shall install erosion control blankets after seeding.

The coconut fiber erosion control blankets shall be North American Green C125BN or equivalent. The erosion control blanket shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the US Department of Transportation, Federal Highway Administration's (FHWA) Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 Section 713.17 as a Type 4 Long-term Erosion Control Blanket. A product of equal properties may be used if pre-approved by Placer County's DPR. The product must be a long-term double net 100% biodegradable erosion control blanket that is a machine-produced mat of 100% coconut fiber with a functional longevity of up to 24 months. The blanket shall be of consistent thickness with the coconut evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with 100% biodegradable woven, natural, organic fiber netting. The top netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands interwoven through the twisted machine strands (commonly referred to as a Leno weave) to form an approximate 0.50 x 1.00 (1.27 x 2.54 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The Erosion Control Blanket shall include an installation staple pattern clearly marked with environmentally safe paint. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

Material Content:

1. Matrix: 100% Coconut Fiber 0.5 lbs/yd^2 (0.27 kg/m^2)
2. Nettings: Top - Leno woven 100% biodegradable jute fiber 9.3 lb/1000 ft^2 (4.5 kg/100 m^2) Bottom – 100% biodegradable jute fiber 7.7 lb/1000 ft^2 (3.76 kg/100 m^2)
3. Thread: Biodegradable

All coir fabric shall be stored elevated off the ground and adequately covered to protect the material from damage. Protect fabric from sharp objects that may damage the material. Materials damaged during transport, storage or placement shall be replaced at the Contractor's expense. Placer County's DPR shall inspect and approve all materials prior to installation.

Fabric stakes shall be wooden stakes 18 inches long and have a top (head) dimension of at least 1.5 inches on one axis (thickness) and 3 inches on the second axis (width). Fabric stakes shall be manufactured by ripping an 18-inch long standard 2-inch by 4-inch,

undamaged wooden stud that is free of knots along the diagonal from corner to corner. Fabric stakes shall not be treated with preservative. Other types of stakes shall be subject to the approval of Placer County's DPR. Pre-approved stakes are Wooden Wedges from Rolanka International (www.rolanka.com) as long as they meet the dimension and length requirements in the Project Technical Specifications and Construction Drawings.

Existing woody vegetation and rocks larger than two feet (2') in diameter shall remain uncovered. Blankets shall be installed from the top to the bottom of the slope. Wooden stakes described above shall be used to secure the blankets to the slopes. No more that three inches (3") of the stake shall protrude above the surface of the blanket. Stake installation patterns shall be clearly marked on the erosion control blanket with environmentally safe paint. The blanket shall be manufactured with a colored line or thread stitched along both outer edges to ensure proper material overlapping.

Temporary Irrigation System. Contractor shall use water trucks or equivalent equipment for irrigation. Water shall be applied with low-flow or misting nozzles that shall not cause runoff, erosion, or mulch displacement in areas to receive Revegetation Types A and B.

Contractor shall apply a quantity of water to penetrate to a depth of 8-inches, but not to fully saturate the soil. Frequency of irrigation shall depend on air and soil temperatures, but is expected to occur every 3-days for the first 4-weeks and every 8-days thereafter for the remainder of the growing season. The irrigation cycle shall continue until written direction is given by Placer County's DPR to stop but not longer than one full growing season. If rain occurs during the irrigation program, the schedule may be modified under the direction and written approval of Placer County's DPR. Irrigation is meant to assist with the establishment of vegetation, and shall not continue beyond the initial germination period.

The Contractor shall keep a log of all irrigation activities performed, with one log entry per irrigation event. Each entry shall include:

1. Date and time of irrigation
2. Quantity of water applied expressed as a ratio of gallons per square foot of surface area
3. Depth of water penetration
4. Estimated air temperature and general weather observations
5. Operator's name and affiliation

Contractor shall submit the irrigation log entries to Placer County's DPR on a monthly basis for one (1) calendar year after irrigation begins or until Placer County's DPR has given a written notice to stop irrigating.

Maintenance. The Contractor shall ensure continued mulch cover over seeded areas until the sites are adequately protected from erosion, as determined by Placer County's DPR. Contractor shall replace displaced mulch at his or her expense.

Performance Standard and Acceptance. The Contractor is responsible for providing landscape plant care before landscape work is accepted by Placer County's DPR in writing as complete. Placer County's DPR will use his discretion in determining if the revegetation is established and successful. Placer County's DPR's discretion will be guided by the goal of having 50% plant cover and 95% total cover 6-months after construction, and 90% plant

and total cover one 1-year after construction. Total cover is defined as cover provided by both vegetation and mulch.

The Contractor shall furnish to Placer County's DPR a Letter of Credit in the amount equal to 20% of the Contractor's total bid price for Revegetation. e Letter of Credit shall be furnished in a form acceptable to Placer County's DPR and shall be valid for a period of 1-calendar year from the date of final completion of the project. If during the correction period revegetation material becomes defective or fails to thrive, and if the Contractor fails to take corrective action in a timely manner after being notified of the defects, Placer County's DPR will have the right to utilize the Letter of Credit to pay for the cost of corrective work, whether performed by themselves or others.

Measurement and Payment

"Revegetation" shall be measured by the (PENDING). The contract unit price paid per (PENDING) for Revegetation shall include full compensation for providing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in seeding, planting, irrigation, complete in place, as specified in the Project Technical Specifications and the Construction Drawings, and as directed by Placer County's DPR.

South Tahoe Project Shared Use Trail
Operations, Management and Maintenance Strategy (OMMS)

This Operations, Management and Maintenance Strategy (OMMS) establishes Operator guidance for the Dollar Creek Shared-Use Trail Project (Project). As project planners complete environmental study and final design details, and as use of the completed trail or trail segments dictate, additional requirements may arise and will be addressed.

The Operator retains responsibilities of the project area that extends beyond trail uses. For example, the land management addresses stewardship responsibilities related to protection of natural and cultural resources and control of neighborhood access points and parking. The OMMS addresses these and other ongoing programs *only* as they relate to existing and proposed future trail uses.

The Operator will be the designated agency assigned to the operation and maintenance of the built Project. Because the project has not been funded yet for construction, the designated Operator has not been determined. The Project area is located within the jurisdiction of the North Tahoe Public Utility District (NTPUD) who operates and manages other multiuse trail facilities within their district boundaries. From a continuity and resource perspective, the NTPUD could be the logical lead agency for taking on the Operator role and administrating the OMMS. Formal determination of Operator lead agency shall occur following construction of the Project.

I. Objectives

The Operator's project goals provide direction for development of the proposed project design. Adequate long-term management and maintenance is required to assure project features continue to provide transportation and recreation benefits. The following management and maintenance objectives state clearly the Operator's intent for long-term project support.

a. Manage trail use to provide broad access to users of all age groups and abilities.

b. Manage trail use to protect natural and cultural resources.

c. Manage trail use to create a neighborhood asset.

d. Use the least restrictive means available to effectively manage trail use, increasing degree of restrictions only in response to actual conditions.

e. Maintain trail facilities adequately to meet safety needs for all user groups.

f. Maintain trail facilities adequately to protect the public investment in construction costs.

II. Protection of Critical Resources

The Dollar Creek Shared-Use Trail route passes through areas of sensitive and diverse vegetation communities and habitats, as well as areas of containing cultural resources. The Operator commits to protection of these resources with the provision and process described below.

a. Design features. The trail design incorporates features to keep through travelers on the protected surface of the trail through SEZ areas and other sensitive sites. The design also recognizes the high desire for access to neighborhoods and recreational amenities and provides specific, protected ways to accommodate that desire. To preserve neighborhood connections and an existing unpaved trail system where resources permit, the design also incorporates BMPs on existing trails to reduce their impacts. The project description includes full discussion of these items.

b. Education and Interpretation. The project design relies on education and interpretation as a first means of resource protection. Directional signage to specifically designated access areas will decrease the pressure to develop new volunteer trails. Interpretive signage will improve compliance with these directions and enhance the sense of stewardship of trail users. Mileage markers will provide a sense of distance and map location. This OMMS recognizes the abilities of strategic sign placement to direct most users as well as the limitations of this approach in high use or particularly sensitive areas.

c. Adaptive management. In addition to directional and interpretive signing, the project design uses physical barriers in critical areas to more emphatically direct users. If new volunteer trails develop through the SEZ, additional measures such fence sections or areas of new planting can be used to direct travel. Outside of SEZ areas, the design uses forest debris or targeted planting to discourage access, use of which can be expanded if necessary.

III. Public Access and Use Guidance

The following management direction provides specific guidance for public access and use along the Project.

a. The Project is a non-motorized trail, intended to meet environmental thresholds by providing for the non-auto transportation and non-motorized recreation needs of residents and visitors. The trail specifically accommodates bicyclists, pedestrians, cross-country skiers, snowshoers, and those with special access needs.

b. The Project provides safe, direct access for persons with mobility disabilities in compliance with Americans with Disabilities Act (ADA) provisions. Use of other powered mobility devices by persons with mobility disabilities as allowed by ADA will meet transportation and recreation goals for those persons. The Operator will stay vigilant to user safety needs and may amend use guidelines for any user group in response to specific future circumstances.

c. Authorized personnel in motorized vehicles, such as maintenance crews, will occasionally require access on the trail. In recognition of the safety concerns related to mixing non-motorized and motorized users on the same trails, these vehicles will operate under heightened safety conditions. This could include temporary trail closures, flashing lights, or warning flags or signs. Emergency medical or police/fire personnel requiring vehicle access, and using emergency lights and/or sirens, will use the protected trail surface as the law allows. No routine or administrative access in vehicles will be allowed.

d. The Conservancy has long considered snowmobiling incompatible with its mission and snowmobiles are prohibited by statute from operation within Conservancy-owned lands. NTPUD similarly does not permit snowmobile use on NTPUD-owned lands.

e. No camping on Conservancy and NTPUD land along the Project route is permitted.

f. After construction of the Project, the protected surface of the trail will serve many trail access needs on the parcels through which it passes. Some needs will continue to be met best by smaller unpaved trails.

g. The nature of a shared-use trail mixes different types of users traveling at different speeds. The Operator supports the "Yield to Wheels" and "Safe Speeds" outreach efforts to ensure safe and enjoyable use. Signage, trail markings, and education will improve compliance. Maintaining a safe trail experience for all users may require additional management strategies in the future. The proposal includes no posted speed limits.

h. The Project is part of a developing bicycle access network with a goal of providing a completely non-auto route between origination and destination points. It is understood, however, that some trail users in the Tahoe Region drive to trail connections, generating a parking demand at connection points. Access from legal parking areas along public streets will occur. While parking along public streets is legal in most places and will not be prohibited through this proposal, this use can create conflicts with neighbors. Conflicts can include trespass, littering, sanitary concerns, noise, and off leash dog activity. The Operator employs use of adaptive management strategies to address this type of use conflict. In this situation, strategies could include (but may not be limited to) increasing educational signs concerning respectful use, increased visitation by management personnel, placement of user management fencing or boulders or trash cans, or consideration of parking facility permitted as part of Project but not built at time of trail constructoin.

i. Access to the Project from developed public sites will also occasionally occur. Project facilities are assets to Tahoe City parks and the existing trail network south of the Project area. However, no public facilities along the Project route are designed to serve as trail heads for a regional bicycle trail. If extended parking for Project trail use competes with needs generated by other day uses, adaptive management strategies will be employed to protect park access for other user groups. This may include developing specific parking restrictions at public parking locations to limit or preclude bike trail network parking or building parking facility permitted as part of Project but not built at time of trail construction.

j. The Project proposal relies on use of adaptive management strategies to address issues for long-term maintenance. These strategies could include (but may not be limited to) increasing outreach concerning respectful use, increased visitation by management personnel, or placement of fencing or trashcans.

IV. Operations and Maintenance

The Project brings new users to the project area and proposes new facilities that require periodic maintenance. The Operator retains the responsibility to ensure public access consistent

with project goals and to maintain trail features for safety and to protect the investment of public funds used in their construction. Several strategies exist to provide management and maintenance; the appropriate combination will change over time to reflect need and changing circumstances.

a. Urban Land Management (ULM) Personnel. At present, the Operator uses permanent land management staff and seasonal lot inspectors, site hosts, and land stewards to address issues as diverse as encroachments, land disturbance, hazard trees, needed maintenance, and disruptive users. These employees engage in pro-active inspections and respond to citizen calls. Seasonal field crews also accomplish site restoration and maintenance such as building fences and other barriers, posting signage, and grading and revegetation.

b. Enforcement Contract. The Operator cooperates on enforcement actions needed in extreme situations on Conservancy and NTPUD parcels within Operator limits. These usually involve activities with threat of imminent harm such as illegal camping or campfires. This cooperation is critical, as the Placer County Sheriff staff have law enforcement authority. It is important to note that County law enforcement officials exercise their authority in relation to the laws of the respective jurisdictions. Law enforcement officials will not enforce Operator trail and land management policies described that are not also prohibited by local or state statute.

c. Maintenance Contracts/Agreements. Many recreation providers, including the County, Conservancy and NTPUD, regularly contract with other entities to manage and maintain specific recreation properties and facilities. If contracts occur with eligible local jurisdictions for Project maintenance activities, funding for certain aspects of this type of agreement may be eligible for local tax funding that generates maintenance funds for new bicycle trails. Additionally, many communities rely on volunteer services for some types of public facility upkeep. Maintenance needs such as litter patrol are well suited for this kind of assistance.

Maintenance needs for trail features will change over time, increasing with facility age. As the Project is constructed, specific maintenance needs will be identified and planned. The following description includes general maintenance issues and serves as a guide in developing a specific approach as plans mature.

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1. Asphalt Concrete Trail Surface. The asphalt concrete trail surface will require scheduled maintenance. Asphalt concrete sealing is important to maintain the integrity of the surface; sealing frequency responds to site conditions such as proximity to snow removal from roadways and sun exposure. Other asphalt concrete repairs can include crack sealing, patching, or repair of heave damage from tree roots.

2. Asphalt Concrete Markings. Repainting trail markings or roadway crosswalks must occur frequently. For crosswalks on roadways, maintained by other jurisdictions, annual repainting will typically be necessary. Trail centerline striping or other trail symbols require less frequent renewal.

3. Bridge Maintenance and Repair. If the final design uses wood decking on the bridge span, scheduled maintenance will include sealant application to protect material integrity. Synthetic surfaces avoid this requirement. However, all trail surfaces require some element of regular maintenance.

4. Repair. Other facility features such as signs and fences will require repair and periodic replacement. This includes trail and site features that can be damaged by snow load, vandalism, or improper use. Annual inspections and citizen reports can identify repair needs to be planned and completed as necessary.

5. Spring Clean-up. Interest in shared-use trail use in Tahoe begins with the first warm days in Spring, usually long before the snow melts on trail surfaces. The Operator does not plan to clear snow from the Project, yet expects that local interest exists and snow removal could be provided by others. Other spring tasks include sweeping the trail, seal coating or repainting pavement markings if necessary and addressing hazard vegetation or other facility repair.

6. Regular Maintenance. Keeping the trail surface clear and free from obstacles requires regular sweeping, trimming trailside vegetation, and litter control and removal. Future tree or limb removal may be necessary to reduce safety hazard for trail users. Certain areas may benefit from placement of “mutt mitt” receptacles.

7. Site Protection/Restoration. The Project relies on placing trail obstacles and revegetation of cut and fill slopes and disturbed areas. New public access to some areas could encourage establishment of new trails or widening of existing trails in the project area. To assure that new trails accessing the Project do not develop, the Operator will rely on a system of regular monitoring and adaptive management. The adaptive management techniques available, as described above, include: use of interpretive and directional signage and placement of additional trail obstacles or user management fences.

8. Highway 28 Trail Crossing. The proposed trail crosses Highway 89 near Dollar Drive which includes operation and maintenance of the pedestrian-activated signal, installation and removal of seasonal center lane pedestrian refuge, maintenance of pavement striping and signs affiliated with crossing, and applicable traffic control protocol deployed during performance of these activities. These activities will be permitted and performed under a Caltrans encroachment permit acquired by the Operator.

V. Project Monitoring

Project monitoring addresses the following:

1. Construction Monitoring as determined by TRPA and NPDES construction permit conditions; and

2. Post-Project Monitoring (Revegetation and Restoration, BMP Effectiveness, Noxious Weed and Invasive Species, and general trail use).

Air Quality Technical Report

Dollar Creek Shared-Use Trail Project
Dollar Drive/SR 28 and Fulton Crescent Drive
Placer County

Prepared for Placer County using Caltrans Document Preparation Guidelines

March 2012

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DOLLAR CREEK SHARED-USE TRAIL PROJECT

Air Quality Technical Report

Executive Summary

Environmental Science Associates (ESA) has prepared this Air Quality analysis of the Dollar Creek Shared-Use Trail Project (Project) located in Placer County, which consists of the development of an approximately 2.5 mile long trail that will link the existing Tahoe City to Dollar Point trail that ends near the intersection of Dollar Drive and SR 28 to the end of Fulton Crescent Drive and will utilize public lands owned by the California Tahoe Conservancy (Conservancy) and North Tahoe Public Utility District (NTPUD). The Project establishes a separated shared-use trail, extending the backbone of the existing north shore bicycle trail network, linking residential uses to jobs, schools, shopping, and recreation and community areas. The property assessed for this analysis includes the immediate area surrounding the proposed trail alignment and is referred to as the "Project area" or the "Project site" in this report. Adjacent land uses consist of mountain homes and continued mountain terrain.

1.0 Introduction

The Project is located within the Placer County portion of the Lake Tahoe Air Basin (LTAB). This technical report includes a discussion of existing air quality conditions, a summary of applicable regulations, and an analysis of potential short-term and long-term air quality impacts of the proposed Project. The method of analysis for short-term construction, long-term regional (operational), local mobile-source, odor, and toxic air emissions is consistent with the recommendations of the Placer County Air Pollution Control District (PCAPCD).

2.0 Project Description

The Project proposes to create an approximately 14 foot wide (to include 10 feet of trail and 2 foot wide clear zones on either side of trail) paved Class 1 bike path primarily within Conservancy and NTPUD owned properties, between the intersection of Dollar Drive and SR 28 and the terminus of Fulton Crescent Drive, north of Dollar Point on the northwest shore of Lake Tahoe in Placer County, CA. The Project establishes a separated shared-use trail, extending the backbone of the existing north shore bicycle trail network, linking residential uses to jobs, schools, shopping, and recreation and community areas. The approximately 2.5 mile long trail will link the existing Tahoe City to Dollar Point trail that ends near the intersection of Dollar Drive and SR 28 to the end of Fulton

Crescent Drive and will utilize public lands owned by the NTPUD and Conservancy. Adjacent land uses consist of mountain homes and continued mountain terrain.

The Project alignment generally follows existing dirt trails and roads constructed on the former Firestone and Dollar Parcels, encompassing other adjacent parcels nearby as needed to improve trail connections or reduce or avoid environmental effects. Residential subdivisions are in close proximity to the beginning and end of this trail segment. The trail passes through mountain terrain typical to the Lake Tahoe area. The Project implements specific goals and policies of the TRPA to provide a non-motorized alternative transportation corridor in the north shore of Lake Tahoe and is consistent with the Conservancy's outdoor recreation program requirements. Trail development details comply with the American Association of State Highway and Transportation Officials (AASHTO) guidelines and American Disability Act (ADA) design standards and may include informal trail consolidation or decommissioning and disturbed land restoration along its length.

3.0 Environmental Setting

The Project area is located in the eastern portion of Placer County, California, which is within the LTAB. The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by pollutant sources and the ability of the atmosphere to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the Project area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

Topography, Climate, and Meteorology

The LTAB is comprised of the surface of Lake Tahoe (roughly 20 miles long by 10 miles wide and land up to the surrounding rim of mountain ridges. The southern portion of the air basin is in El Dorado County and the northern portion is in Placer County. The lake is at 6,200 feet elevation, and the ridges climb to over 10,000 feet. The mountain slopes surrounding the lake are quite precipitous, and are broken by deep valleys carved by streams that drain into the lake.

The meteorology of the LTAB in winter is typified by large amounts of precipitation from Pacific storms that fall mainly as snow and temperatures below freezing accompanied by winds, cloudiness, and lake and valley fog. Winter days can also bring cool, brilliantly clear days between storms. In the summer, the LTAB experiences sunny, mild days, with daytime peaks in the upper 70s and low 80s, with an occasional thunderstorm from southern flows of moisture.

Existing Air Quality

The PCAPCD regional air quality monitoring network provides information on existing ambient concentrations of criteria air pollutants. Monitored ambient air pollutant concentrations reflect the number and strength of emissions sources and the influence of topographical and meteorological factors. Criteria air pollutant concentrations are measured at several monitoring stations in the LTAB. The South Lake Tahoe (1901 Airport Road and Sandy Way) stations are the closest in

proximity to the Project area with recent data for ozone and PM10. In general, the ambient air quality measurements from these stations are representative of the air quality in the vicinity of the Project area. **Table 1** summarizes the air quality data from the most recent three-years available.

TABLE 1
AIR QUALITY DATA SUMMARY (2008-2010) FOR THE PROJECT AREA – SOUTH LAKE TAHOE STATION

	Monitoring Data by Year		
Pollutant	**2008**	**2009**	**2010**
Ozone			
Highest 1 Hour Average (ppm)[b]	0.091	0.077	NA
Days over State Standard (0.09 ppm)[a]	0	0	NA
Highest 8 Hour Average (ppm)[b]	**0.077**	**0.071**	NA
Days over National Standard (0.075 ppm)[a]	1	0	NA
Days over State Standard (0.07 ppm)[a]	5	1	NA
Particulate Matter (PM10)			
Highest 24 Hour Average – State/National ($\mu g/m^3$)[b]	**96.7**/NA	**52.8**/NA	**71.4**/NA
Estimated Days over National Standard (150 $\mu g/m^3$)[a,c]	0	0	0
Estimated Days over State Standard (50 $\mu g/m^3$)[a,c]	10	1	2
State Annual Average (State Standard 20 $\mu g/m^3$)[a,b]	NA	NA	NA

a Generally, state standards and national standards are not to be exceeded more than once per year.
b ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
c PM10 and PM2.5 is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

NA = Not Available. Values in **Bold** exceed the respective air quality standard.

SOURCE: California Air Resources Board (ARB), 2012b. *Summaries of Air Quality Data*, 2008-2010; http://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed February 22, 2012.

Criteria Air Pollutants

These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the Federal Clean Air Act (FCAA). California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard.

- **Ozone (O_3).** Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NOx under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

- **Carbon Monoxide (CO).** Ambient CO concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence CO concentrations. Under inversion conditions, CO concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

  CO concentrations have declined dramatically in California due to existing controls and programs, and most areas of the state, including the region encompassing the Project area, have no problem meeting the CO state and federal standards. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, fewer emissions from new vehicles, and improvements in fuels.

- **Nitrogen Dioxide (NO_2).** NO_2 is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels. NO_2 is an air quality concern because it acts as a respiratory irritant and is a precursor of ozone. NO_2 is a major component of the group of gaseous nitrogen compounds commonly referred to as NOx, which are produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, NO_2 emitted from fuel combustion are in the form of nitric oxide (NO) and NO_2. NO is often converted to NO2 when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Therefore, emissions of NO_2 from combustion sources are typically evaluated based on the amount of NOx emitted from the source.

- **Respirable Particulate Matter (PM10)** and **Fine Particulate Matter (PM2.5).** PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and state ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and

daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing.

- **Sulfur Dioxide (SO_2).** SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of the burning of high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries.

- **Lead.** Lead occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead. Since the use of leaded gasoline is no longer permitted for on-road motor vehicles, lead is not a pollutant of concern in the LTAB.

Toxic Air Contaminants (TACs)

TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs are substances for which Federal or State criteria air pollutant standards have not been adopted. Thus, for TACs, there is no Federal or State ambient air quality standard against which to measure a project's air quality impacts. For this reason, TACs are analyzed by performing a health risk assessment.

TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Asbestos

Naturally occurring asbestos (NOA) may be found in at least 44 of California's 58 counties. Asbestos is the name for a group of naturally occurring silicate minerals. Exposure to asbestos may result in inhalation or ingestion of asbestos fibers, which over time may result in damage to the lungs or membranes that cover the lungs, leading to illness or even death.

NOA, often found in serpentine rock formations, is present in several foothill areas of Placer County. The Project site is not located near any of the areas identified by the California Department of Conservation, California Geological Survey (CGS) as containing Ultramafic Rocks and is mapped as an Area Least Likely to Contain NOA (California Department of Conservation, 2006).

Odorous Emissions

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency and intensity of the source; wind speed and direction; and the sensitivity of receptors. Odor impacts should be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the source will mitigate odor impacts.

Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern with GHGs is that increases in their concentrations are causing global climate change, a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long-term global temperature increases. There are several gases that act as GHGs; their common attribute is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation, which warms the air. The process is similar to the effect greenhouses have in raising the air temperature inside the greenhouse, hence the name GHGs. Both natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere regulates the Earth's temperature; however, emissions from human activities such as fossil fuel-based electricity production and the use of motor vehicles have elevated the concentration of GHGs in the atmosphere. It generally is believed that this accumulation of GHGs is contributing to global climate change.

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because these different GHGs have different warming potential (the amount of heat trapped by a certain mass of a GHG), and CO_2 is the most commonly referenced gas for climate change, GHG emissions often are quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 commonly is used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually worldwide, is a very potent GHG with 23,900 times the global warming potential of CO_2. Therefore, an emission of 1 metric ton of SF_6 could be reported as an emission of 23,900 metric tons (MT) of CO_2e. Large emission sources are reported in million metric tons[1] of CO_2e.

Some of the potential effects of global warming in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (ARB, 2008). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2007):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

[1] A metric ton is 1,000 kilograms; it is equal to approximately 1.1 U.S. tons and approximately 2,204.6 pounds.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

4.0 Regulatory Setting

Federal

Criteria Air Pollutants

The Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS or national standards) to protect public health and welfare. National standards have been established for O_3, CO, NO_2, SO_2, PM10, PM2.5, and lead. **Table 2** shows current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.

Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the USEPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutants, based on whether or not the NAAQS had been achieved. **Table 3** shows the current attainment status of the Project area.

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the USEPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

TABLE 2
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NOx react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.070 ppm	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, CO interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
	8 hours (Lake Tahoe)	6.0 ppm	---		
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	53 ppb		
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm (certain areas)		
Respirable Particulate Matter (PM10)	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	May irritate eyes and respiratory tract, decreases in lung capacity, can cause cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 $\mu g/m^3$	---		
Fine Particulate Matter (PM2.5)	24 hours	---	35 $\mu g/m^3$	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.
	Annual Avg.	12 $\mu g/m^3$	15.0 $\mu g/m^3$		
Lead	Monthly Ave.	1.5 $\mu g/m^3$	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 $\mu g/m^3$		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal power plants, petroleum production and refining.
Sulfates	24 hour	25 $\mu g/m^3$	No National Standard	Breathing difficulties, aggravates asthma, reduced visibility	Produced by the reaction in the air of SO_2.
Visibility Reducing Particles	8 hour (Lake Tahoe)	Extinction of 0.07/km; visibility of 30 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See PM2.5.

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

SOURCES: California Air Resources Board (ARB), 2012b. *Ambient Air Quality Standards,* available at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf Standards last updated February 7, 2012; and ARB, 2009. *ARB Fact Sheet: Air Pollution Sources, Effects and Control,* http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm, page last updated December 2009.

TABLE 3
TAHOE BASIN ATTAINMENT STATUS

	Designation/Classification[a]	
Pollutant	**Federal Standards**	**State Standards**
Ozone – one hour	No Federal Standard	Attainment[b]
Ozone – eight hour	Unclassified/Attainment	Nonattainment-Transitional
PM10	Unclassified[e]	Nonattainment
PM2.5	Unclassified/Attainment[f]	Attainment
CO	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

A Attainment. An area is designated attainment if the state or federal standard for the specified pollutant is met.
N Nonattainment. An area is designated nonattainment if the State or federal standard for the specified pollutant is not met.
NT Nonattainment – Transitional. An area is designated non-attainment – transitional to signify that the area is close to attaining the standard for that pollutant.
U Unclassified. An area is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

Air basins classified as N or NT areas have at least one area within that basin that has shown a violation of the relevant ambient standard.

SOURCE: California Air Resources Board (ARB), 2011. *Area Designations Maps – State and National,* available at http://www.arb.ca.gov/desig/adm/adm.htm; page last reviewed September 13, 2011 and accessed February 23, 2012.

Toxic Air Contaminants

Regulation of TACs, termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, State and local controls on individual sources. The 1977 Clean Air Act Amendments required the USEPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. There is uncertainty in the precise degree of hazard.

Greenhouse Gases

In the past, the USEPA has not regulated GHGs under the FCAA because it asserted that the act did not authorize the USEPA to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. However, the U.S. Supreme Court held that the USEPA must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency* et al., twelve states and cities, including California, together with several environmental organizations, sued to require the USEPA to regulate GHGs as pollutants under the FCAA (127 S. Ct. 1438 (2007)). The Court ruled that GHGs fit within the FCAA‘s definition of a pollutant and the USEPA did not have a valid rationale for not regulating

GHGs. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under section 202(a) of the FCAA:

- ***Endangerment Finding*:** the current and projected concentrations of the six key well-mixed GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- ***Cause or Contribute Finding*:** The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, USEPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year (FY) 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required U.S. EPA to develop "… mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy…." The Reporting Rule will apply to most entities that emit 25,000 metric tons of CO_2e or more per year. Starting in 2010, facility owners are required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for USEPA to verify annual GHG emissions reports.

State

The California Air Resources Board (ARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. ARB establishes state ambient air quality standards and vehicle emissions standards.

Criteria Air Pollutants

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These are shown in **Table 2**. Under the California Clean Air Act (CCAA) patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards. **Table 3** summarizes the attainment status with California standards in the Project area.

Toxic Air Contaminants

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) hazardous air pollutants (HAPs) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

In August of 1998, ARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. ARB subsequently developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (ARB, 2000). The document represents proposals to reduce diesel particulate emissions, with the goal of reducing emissions and associated health risks by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

In 2005, ARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (ARB, 2005). The primary goal in developing the handbook was to provide information that will help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. The handbook highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. The health risk is greatly reduced with distance. For that reason, ARB provides some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

Greenhouse Gases

California Environmental Quality Act and Climate Change

The California Environmental Quality Act (CEQA) requires lead agencies to consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions have the potential to adversely affect the environment because they contribute to global climate change. In turn, global climate change has the potential to: raise sea levels, affect rainfall and snowfall, and affect habitat.

Assembly Bill 1493

In 2002, then-Governor Gray Davis signed AB 1493, which required the ARB to develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, the ARB approved amendments to the California Code of Regulations (CCR) in 2004, adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1), require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight [GVW] rating of less than 10,000 pounds and which is designed primarily for the transportation of persons), beginning with model year 2009. For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emission limits for model year 2016 are approximately 37 percent lower than the limits for the first year of the regulations, model year 2009. For light-duty trucks with an LVW of 3,751 pounds to a GVW of

8,500 pounds, as well as for medium-duty passenger vehicles, GHG emissions will be reduced approximately 24 percent between 2009 and 2016.

Because the Pavley standards (named for the bill's author, state Senator Fran Pavley) would impose stricter standards than those under the FCAA, California applied to the USEPA for a waiver under the FCAA; this waiver was denied in 2008. In 2009, however, the USEPA granted the waiver.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 and the California Climate Change Scoping Plan

In 2006, the California legislature passed Assembly Bill 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires the ARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions).

Pursuant to AB 32, the ARB adopted a Scoping Plan in December 2008, which was re-approved by ARB on August 24, 2011 (ARB, 2008), outlining measures to meet the 2020 GHG reduction limits. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business as usual emissions levels or about 15 percent from today's levels. The Scoping Plan estimates a reduction of 174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and other sources, with measures summarized in **Table 4** below. The ARB has identified an implementation timeline for the GHG reduction strategies in the Scoping Plan. Some measures may require new legislation to implement, some will require subsidies, some have already been developed, and some will require additional effort to evaluate and quantify. Additionally, some emissions reductions strategies may require their own environmental review under CEQA or the National Environmental Policy Act (NEPA).

AB 32 also anticipates that local government actions will result in reduced GHG emissions. ARB has identified a GHG reduction target of 15 percent from current levels for local governments themselves and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.

TABLE 4
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO_2e)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3[1]	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) • Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO_2e)
Recycling and Waste Management		
RW-1	Landfill Methane Control (Discrete Early Action)	1
RW-2	Additional Reductions in Landfill Methane • Increase the Efficiency of Landfill Methane Capture	TBD†
RW-3	High Recycling/Zero Waste • Commercial Recycling • Increase Production and Markets for Compost • Anaerobic Digestion • Extended Producer Responsibility • Environmentally Preferable Purchasing	9†
Forests		
F-1	Sustainable Forest Target	5
High Global Warming Potential (GWP) Gases		
H-1	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Services (Discrete Early Action)	0.26
H-2	SF_6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	0.3
H-3	Reduction of Perfuorocarbons in Semiconductor Manufacturing (Discrete Early Action)	0.15
H-4	Limit High GWP Use in Consumer Products Discrete Early Action (Adopted June 2008)	0.25
H-5	High GWP Reductions from Mobile Sources • Low GWP Refrigerants for New Motor Vehicle Air Conditioning Systems • Air Conditioner Refrigerant Leak Test During Vehicle Smog Check • Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers • Enforcement of Federal Ban on Refrigerant Release during Servicing or Dismantling of Motor Vehicle Air Conditioning Systems	3.3
H-6	High GWP Reductions from Stationary Sources • High GWP Stationary Equipment Refrigerant Management Program: - Refrigerant Tracking/Reporting/Repair Deposit Program - Specifications for Commercial and Industrial Refrigeration Systems • Foam Recovery and Destruction Program • SF Leak Reduction and Recycling in Electrical Applications • Alternative Suppressants in Fire Protection Systems • Residential Refrigeration Early Retirement Program	10.9
H-7	Mitigation Fee on High GWP Gases	5
Agriculture		
A-1	Methane Capture at Large Dairies	1.0†

1 This is not the SB 375 regional target. ARB will establish regional targets for each Metropolitan Planning Organization (MPO) region following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375.

† GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target.

The Scoping Plan relies on the requirements of Senate Bill 375 (discussed below) to implement the carbon emission reductions anticipated from land use decisions. SB 375 was enacted to align local land use and transportation planning to further achieve the state's GHG reduction goals. SB 375 requires regional transportation plans (RTPs), developed by Metropolitan Planning Organizations (MPOs), to incorporate a "sustainable communities strategy" that would achieve GHG emission reduction targets set by the ARB. SB 375 also includes provisions for streamlined CEQA review for

some infill projects, such as transit-oriented development. SB 375 would be implemented over the next several years.

Executive Order S-1-07

Executive Order S-1-07, signed by then-Governor Schwarzenegger in 2007, proclaimed that the transportation sector is the main source of GHG emissions in California, at over 40 percent of statewide emissions. The order established a goal of reducing the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. It also directed the ARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete, early-action measure after meeting the mandates in AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bill 1078 and 107 and Executive Order S-14-08 and S-21-09

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the ARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. The 33 percent by 2020 goal was codified in April 2011 with Senate Bill X1-2, which was signed by Governor Edmund G. Brown, Jr. This new RPS preempts the ARB 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

Senate Bill 1368

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (PUC) to establish a GHG emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The California Energy Commission (CEC) was also required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the GHG emission rate from a baseload combined-cycle natural gas-fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Senate Bill 97

SB 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA,

no later than July 1, 2009. The California Natural Resources Agency was required to certify or adopt those guidelines by January 1, 2010. On December 30, 2009, the Natural Resources Agency adopted the state CEQA Guidelines amendments, as required by SB 97. These state CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments were reviewed by the Office of Administrative Law and became effective March 18, 2010.

Senate Bill 375

In addition to policy directly guided by AB 32, the legislature in 2008 passed SB 375, which provides for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires RTPs developed by the state's 18 MPOs to incorporate a "sustainable communities strategy" (SCS) that will achieve GHG emission reduction targets set by the ARB.

Local Regulations

Placer County Air Pollution Control District Rules and Regulations

The PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues.

The clean-air strategy of PCAPCD includes the preparation of plans for the attainment of ambient air-quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA, FCAAA, and the CCAA.

All projects are subject to PCAPCD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed Project may include the following:

- **Rule 202—Visible Emissions.** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- **Rule 217—Cutback and Emulsified Asphalt Paving Materials.** A person shall not manufacture for sale nor use for paving, road construction, or road maintenance any: rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500°F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Section 1.2.; or emulsified asphalt containing organic compounds which evaporate at 500°F or lower as determined by current ASTM Method D244, in excess of 3% by volume.

- **Rule 218—Application of Architectural Coatings.** No person shall: (i) manufacture, blend, or repackage for sale within PCAPCD; (ii) supply, sell, or offer for sale within PCAPCD; or (iii) solicit for application or apply within PCAPCD, any architectural coating with a volatile organic carbon (VOC) content in excess of the corresponding specified manufacturer's maximum recommendation. "Manufacturer's maximum recommendation" means the maximum recommendation for thinning that is indicated on the label or lid of the coating container.
- **Rule 228—Fugitive Dust.**
    - *Visible Emissions Not Allowed Beyond the Boundary Line:* A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.
    - *Visible Emissions from Active Operations:* In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.
    - *Concentration Limit:* A person shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter (µg/m3) (24-hour average) when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other EPA approved equivalent method for PM10 monitoring.
    - *Track-Out onto Paved Public Roadways:* Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed. The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed within 1 hour from adjacent streets any time track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations. All visible roadway dust tracked-out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a High Efficiency Particulate Air (HEPA) filter equipped vacuum device shall be used for roadway dust removal. Any material tracked-out, or carried by erosion, and clean-up water, shall be prevented from entering waterways or storm water inlets as required to comply water quality control requirements.
    - *Minimum Dust Control Requirements:* The following dust mitigation measures are to be initiated at the start and maintained throughout the duration of the construction or grading activity, including any construction or grading for road construction or maintenance.
        - Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered.

- The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
- Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
- Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.
- Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt, from being released or tracked off-site.
- When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations shall be suspended.
- No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either covered with tarps; or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than 6 inches from the top and that no point of the load extends above the top of the cargo compartment.

o *Wind-Driven Fugitive Dust Control:* A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.

- **Rule 304—Land Development Smoke Management.** The purpose of this rule is to establish standards and administrative requirements under which land development burning may occur in a reasonably regulated manner that manages the generation of smoke and reduces the emission of particulates and other air contaminates from such burning. Notably, a person shall not ignite or allow open outdoor burning without first obtaining a valid burn permit from the PCAPCD.
- **Rule 501—General Permit Requirements.** Any person operating an article, machine, equipment, or other contrivance, the use of which may cause, eliminate, reduce, or control the issuance of air contaminants, shall first obtain a written permit from the Air Pollution Control Officer (APCO). Stationary sources subject to the requirements of Rule 507, Federal Operating Permit Program, must also obtain a Title V permit pursuant to the requirements and procedures of that rule.

Tahoe Regional Planning Agency

The Tahoe Regional Planning Agency (TRPA) implements its own set of air quality standards and ordinances, including eight air quality standards and indicators adopted to protect air quality in the Lake Tahoe Air Basin. The TRPA/Tahoe Metropolitan Planning Organization (TMPO)

Regional Transportation Plan (RTP) adopted in 2008 and referred to as Mobility 2030, establishes policies, project implementation plans, and funding strategies to shape the Tahoe Region's transportation network so that environmental goals and thresholds are met. The RTP includes an analysis of its conformity with the California SIP to ensure that the RTP remains consistent with state and local air quality planning efforts to achieve and/or maintain the NAAQS.

TRPA Code provisions establish regulatory controls to implement Regional Plan policies. Code provisions relevant to the Project include TRPA revised Code Chapter 65 which establishes air quality control requirements to aid in the implementation of TRPA air quality goals and policies for the purpose of attaining and maintaining applicable federal and state air quality standards and TRPA thresholds.

5.0 Impacts and Mitigation Measures

Analysis Methodology

Short-term construction and long-term operational emissions of criteria air pollutants were assessed in accordance with methodologies recommended by PCAPCD (PCACPD, 2012). Emissions were quantified using the most recent version of the California Emissions Estimator Model (CalEEMod), version 2011.1.1, and compared to the applicable PCAPCD thresholds for determination of significance.

All other air quality impacts (i.e., odor, and TAC emissions) were assessed in accordance with methodologies recommended by ARB and PCAPCD and based on existing reference documentation.

Thresholds of Significance

Based on the Placer County CEQA Checklist and the State CEQA Guidelines, the proposed Project would result in a potentially significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is nonattainment under any applicable national or state ambient air quality standards (PCAPCD has adopted an operational cumulative threshold of 10 pounds per day (lbs/day) of ROG or NOx, to apply during summer months only);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number or people;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

As stated in Appendix G of the State CEQA Guidelines, the significance of criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. Thus, based on recommendations by PCAPCD, the proposed Project would result in a potentially significant impact on air quality if:

- construction-generated criteria air pollutant or precursor emissions would exceed the PCAPCD threshold of 82 lbs/day for ROG, NOx, or PM10, or 550 lbs/day of CO;
- long-term operational (regional) criteria air pollutant or precursor emissions would exceed the PCAPCD threshold of 82 lbs/day for ROG, NOx, PM10, or SO_2, or 550 lbs/day of CO;

By adoption of AB 32, the State of California has identified GHG reduction goals, the effect of increased GHG emissions as they relate to global climate change is inherently an adverse environmental impact. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in an impact with respect to global climate change. Although neither the ARB nor the PCAPCD have identified a significance threshold for analyzing GHG emissions generated by a project or a methodology for analyzing air quality impacts related to global warming, the PCAPCD has recommended the use of an already adopted or accepted threshold for operational emissions, such as the Bay Area Air Quality Management District (BAAQMD) (PCAPCD, 2012). Therefore, the BAAQMD threshold of 1,100 metric tons per year CO_2e (from sources other than permitted stationary sources) (BAAQMD, 2011) will be applied to the long-term operations of the Project.

Impacts

Impact AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant)

The SIP demonstrates how the LTAB will continue to maintain compliance with the federal 8-hour CO standard. A project is typically deemed inconsistent with air quality plans if it results in population and/or employment growth that exceed growth estimates included in the applicable planning documents and therefore generates emissions not accounted for in the emissions budget. The Project does not result in additional population or employment growth. Furthermore, as discussed below for Impact AQ-2, criteria pollutant emissions associated with construction and operation of the Project would result in less than significant impacts. Thus, the Project would not conflict with or obstruct implementation of the applicable air quality plan and this impact would be less than significant.

Mitigation: None required.

Impact AQ-2: Would the Project violate any air quality standards or contribute substantially to an existing or projected air quality violation? (Potentially Significant)

Construction

Project construction would result in short-term, temporary effects to air quality. Construction of the Project would involve use of equipment and paving materials that would emit ozone precursor emissions (ROG and NOx), as well as the emission of other criteria pollutants from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for these activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NOx from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during Project development. Emissions were estimated using CalEEMod and are depicted below in **Table 5**. Additional assumptions and information are included in **Appendix A**.

TABLE 5
PEAK DAY CONSTRUCTION-RELATED POLLUTANT EMISSIONS (Pounds/Day)[a]

Year	ROG	NOx	CO	SO_2	PM10	PM2.5
2012 (Unmitigated Emissions)	12	80	53	<1	12	9
PCAPCD Construction Threshold	82	82	550	None	82	None
Significant Impact?	No	No	No	No	No	No

a Emissions were modeled using CalEEMod and assume default equipment and worker assumptions for the grading (2.5 miles long by 30 feet wide) and paving (2.5 miles long by 14 feet wide) of the Project area. Duration of construction is assumed to be over approximately 132 work days through the summer, based on the assumption that 100 linear feet of trail would be completed per day. Additional information is included in Appendix A.

Although the project would not generate emissions during construction that would exceed the PCAPCD thresholds, due to the non-attainment status of the air basin with respect to ozone and PM10, the PCAPCD recommends that projects implement a set of construction mitigation measures as best management practices regardless of the significance determination. Implementation of **Mitigation Measures AIR-2** would reduce impacts to a less-than-significant level. In addition, compliance with all applicable PCAPCD Rules and Regulations would be required by law.

Operations

According to the *Proposed Dollar Creek Shared Use Trail Usage Forecasts and Parking Estimates Memorandum* (LSC Transportation Engineers, Inc., 2011), the Project would result in a net increase of 117 vehicle-miles travelled (VMT) per day. Operational emissions were estimated using CalEEMod and are depicted below in **Table 6**. Additional assumptions and information are included in **Appendix A**.

TABLE 6
PEAK DAY OPERATION-RELATED POLLUTANT EMISSIONS (Pounds/Day)[a]

Year	ROG	NOx	CO	SO_2	PM10	PM2.5
On-road Vehicles	<1	<1	2	0	<1	<1
PCAPCD Operational Threshold	82	82	550	82	82	None
Significant Impact?	No	No	No	No	No	No

a CalEEMod was used, with an adjusted trip rate and trip length for mobile sources, in order to estimate long-term operational emissions associated with a net increase of 117 VMT per day. Additional information is included in Appendix A.

As shown in **Table 6**, long-term operational emissions of the Project would be less-than-significant without mitigation.

Mitigation Measure AIR-2: The applicant shall require the construction contractor(s) to implement the following construction control measures:

- Construction contractor to prepare a dust control plan consistent with PCAPCD Rule 228 Fugitive Dust. When an area to be disturbed is greater than one acre, and if required by a Condition of Approval of a discretionary permit, a dust control plan (DCP) shall be submitted to and approved by the PCAPCD prior to construction that identifies fugitive dust control strategies and construction BMPs to avoid track-out, protect existing vegetation and properly maintain stockpiles. The dust control plan instructions shall contain a DCP Application form. Completion of this application and subsequent approval by the District shall satisfy requirements to have a dust control plan. Failure to implement the plan is subject to enforcement through the Conditions of Approval, and by the District through Rule 228. Within the project area, few limitations to typical DCP control elements exist. Site watering shall occur to avoid spray beyond the project area in those locations with narrow right-of-way (e.g. where residences or other structures lie close to the project area). Additionally, equipment washing shall occur on high capability land with the discharge contained to avoid runoff.
- Construction equipment exhaust emissions shall not exceed PCAPCD Rule 202 Visible Emission limitations. Operators of vehicles and equipment found to exceed opacity limits shall cease operations immediately.
- The prime contractor shall be responsible for keeping adjacent public thoroughfares clean of silt, dirt, mud, and debris, and shall “wet broom” the streets (or use another method to control dust as approved by the individual jurisdiction) if silt, dirt, mud or debris is carried over to adjacent public thoroughfares.
- During construction, traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less.
- In order to minimize wind driven dust during construction, the prime contractor shall apply methods such as surface stabilization, establishment of a vegetative cover, paving, (or use another method to control dust as approved by the lead agency).
- The prime contractor shall suspend all grading operations when wind speeds (including instantaneous gusts) are excessive and dust is impacting adjacent properties.
- Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.
- During construction, no open burning of removed vegetation shall be allowed unless permitted with APCD. All removed vegetative material shall be either chipped on site

or taken to an appropriate recycling site, or if a site is not available, a licensed disposal site.

- Processes that discharge 2 pounds per day or more of air contaminants, as defined by Health and Safety Code Section 39013, to the atmosphere may require a permit. Developers/contractors shall contact the PCAPCD prior to construction or use of equipment and obtain any necessary permits.
- Prior to approval of Grading or Improvement Plans, (whichever occurs first), on project sites greater than one acre, the applicant shall submit a Construction Emission / Dust Control Plan to the PCAPCD. If the PCAPCD does not respond within twenty (20) days of the plan being accepted as complete, the plan shall be considered approved. The applicant shall provide written evidence, provided by the PCAPCD, to the local jurisdiction (city or county) that the plan has been submitted to the PCAPCD. It is the responsibility of the applicant to deliver the approved plan to the local jurisdiction. The applicant shall not break ground prior to receiving PCAPCD approval, of the Construction Emission / Dust Control Plan, and delivering that approval to the local jurisdiction issuing the permit.
- Include the following standard note on the Grading Plan or Improvement Plans: The prime contractor shall submit to the PCAPCD a comprehensive inventory (e.g., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that will be used in aggregate of 40 or more hours for the construction project. If any new equipment is added after submission of the inventory, the prime contractor shall contact the PCAPCD prior to the new equipment being utilized. At least three business days prior to the use of subject heavy-duty off-road equipment, the project representative shall provide the PCAPCD with the anticipated construction timeline including start date, name, and phone number of the property owner, project manager, and on-site foreman.
- Prior to approval of Grading or Improvement Plans, whichever occurs first, the applicant shall provide a written calculation to the PCAPCD for approval demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet average of 20% of NOx and 45% of DPM reduction as compared to ARB statewide fleet average emissions. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
- Include the following standard note on the Improvement/Grading Plan: During construction the contractor shall utilize existing power sources (e.g., power poles) or clean fuel (e.g., gasoline, biodiesel, natural gas) generators rather than temporary diesel power generators.
- Include the following standard note on the Improvement/Grading Plan: During construction, the contractor shall minimize idling time to a maximum of 5 minutes for all diesel powered equipment.

Significance after Mitigation: Implementation of the above measures would ensure emissions would be less than significant for Project construction.

Impact AQ-3: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors?) (Less than Significant)

According to the PCAPCD, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The LTAB is non-attainment with respect to ozone and PM10. As discussed above for Impact AQ-2, criteria pollutant emissions associated with construction and operation of the Project would result in less than significant impacts based on the individual Project thresholds. In addition, the PCAPCD has adopted an operational cumulative threshold of 10 lbs/day of ROG or NOx (applies during summer months only), which the Project would not exceed. Thus, the Project would not result in a cumulatively considerable increase in criteria pollutants and this impact would be less than significant.

Mitigation: None required.

Impact AQ-4: Would the Project expose sensitive receptors to substantial pollutant concentrations (Less than Significant)

Construction of the project would result in short-term diesel exhaust emissions (DPM), which are toxic air contaminants (TACs), from on-site heavy-duty equipment. Project construction would generate DPM emissions from the use of off-road diesel equipment required for construction activities. Exposure of sensitive receptors is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. A longer exposure period would result in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of the proposed construction activities (approximately 6 months) would only constitute a small percentage of the total 70-year exposure period. DPM from construction activities are not anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards. However, implementation of PCAPCD's construction mitigation measures would reduce potential DPM emissions.

In addition, the long-term operation of the project would not result in any sources of toxic air emissions. As a result, the Project would not result in the exposure sensitive receptors to substantial TAC emissions and this impact would be less than significant.

Mitigation: None required.

Impact AQ-5: Would the Project create objectionable odors affecting a substantial number or people? (Less than Significant)

As a general matter, the types of land use development that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities and transfer stations. No such uses would occupy the Project site. The Project (shared-use trail) would not create objectionable odors and this impact would be less than significant.

Mitigation: None required.

Impact AQ-6: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? (Less than Significant)

GHG emissions associated with Project construction and operations were modeled with CalEEMod and are described below.

GHGs associated with construction would be generated by construction equipment, haul trucks, and worker vehicles. As shown in **Appendix A**, maximum annual GHGs of approximately 477 metric tons of CO_2e would be emitted during the year 2012.

In regards to long-term operations, as recommended by the PCAPCD (PCAPCD, 2012), the BAAQMD threshold of 1,100 metric tons per year CO_2e from sources other than permitted stationary sources (BAAQMD, 2011) was applied to this Project. As shown in **Appendix A**, GHG emissions generated by on-road mobile sources would equate to approximately 21 metric tons of CO_2 per year. Thus, the project would not exceed the applied BAAQMD GHG threshold and would be considered less than significant.

Mitigation: None required.

Impact AQ-7: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG? (Less than Significant)

Based on the negligible increase in VMT and GHGs due to the Project, the Project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Implementation of the Project involves construction of a shared use trail that has been designed to increase bicycle and pedestrian use in the area. Consequently, this is considered a beneficial project designed to reduce GHG emissions and improve air quality/climate change conditions. This would be a less than significant impact.

Mitigation: None required.

6.0 References

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Appendix A
Air Quality

North Tahoe

Lake Tahoe Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Other Asphalt Surfaces	4.24	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	14	**Precipitation Freq (Days)**	72		

1.3 User Entered Comments

Project Characteristics -

Land Use - paved area assumed to be 2.5 miles long, 14 feet wide

Construction Phase - 2.5 mile trail length, 13,200 feet at 100 linear feet per day = 132 days to construct

Off-road Equipment -

Grading - Total acres disturbed assumes there is a buffer on each side of the trail that will be disturbed during construction (2.5 miles x total width of 30 feet)

Vehicle Trips - Averaged trip lengths of 7.3 and 9.5, estimating trip emissions based on Non Res C-NW Trips only. Since project would increase daily VMT by 117, divided 117 VMT/day by 8.4 VMT/trip to get 13.93 new trips per day, for a trip rate of 3.2854.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2012	11.72	79.97	52.90	0.08	6.55	5.43	11.98	3.32	5.42	8.74	0.00	7,993.54	0.00	1.04	0.00	8,015.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2012	11.72	79.97	52.90	0.08	6.11	5.43	11.54	3.32	5.42	8.74	0.00	7,993.54	0.00	1.04	0.00	8,015.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.14	0.24	1.49	0.00	0.14	0.01	0.15	0.00	0.01	0.01		130.06		0.01		130.26
Total	**0.14**	**0.24**	**1.49**	**0.00**	**0.14**	**0.01**	**0.15**	**0.00**	**0.01**	**0.01**		**130.06**		**0.01**	**0.00**	**130.26**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.14	0.24	1.49	0.00	0.14	0.01	0.15	0.00	0.01	0.01		130.06		0.01		130.26
Total	**0.14**	**0.24**	**1.49**	**0.00**	**0.14**	**0.01**	**0.15**	**0.00**	**0.01**	**0.01**		**130.06**		**0.01**	**0.00**	**130.26**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Grading - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.09	0.00	6.09	3.31	0.00	3.31						0.00
Off-Road	6.76	51.98	31.88	0.05		3.00	3.00		3.00	3.00		5,240.07		0.60		5,252.76
Total	**6.76**	**51.98**	**31.88**	**0.05**	**6.09**	**3.00**	**9.09**	**3.31**	**3.00**	**6.31**		**5,240.07**		**0.60**		**5,252.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.13	1.69	0.00	0.20	0.01	0.20	0.00	0.01	0.01		151.17		0.01		151.45
Total	**0.16**	**0.13**	**1.69**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**151.17**		**0.01**		**151.45**

3.2 Grading - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.09	0.00	6.09	3.31	0.00	3.31						0.00
Off-Road	6.76	51.98	31.88	0.05		3.00	3.00		3.00	3.00	0.00	5,240.07		0.60		5,252.76
Total	**6.76**	**51.98**	**31.88**	**0.05**	**6.09**	**3.00**	**9.09**	**3.31**	**3.00**	**6.31**	**0.00**	**5,240.07**		**0.60**		**5,252.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.16	0.13	1.69	0.00	0.01	0.01	0.01	0.00	0.01	0.01		151.17		0.01		151.45
Total	**0.16**	**0.13**	**1.69**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**		**151.17**		**0.01**		**151.45**

3.3 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.51	27.70	17.08	0.03		2.41	2.41		2.41	2.41		2,400.73		0.40		2,409.23
Paving	0.08					0.00	0.00		0.00	0.00						0.00
Total	**4.59**	**27.70**	**17.08**	**0.03**		**2.41**	**2.41**		**2.41**	**2.41**		**2,400.73**		**0.40**		**2,409.23**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.21	0.17	2.25	0.00	0.26	0.01	0.27	0.00	0.01	0.01		201.57		0.02		201.94
Total	**0.21**	**0.17**	**2.25**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**201.57**		**0.02**		**201.94**

3.3 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.51	27.70	17.08	0.03		2.41	2.41		2.41	2.41	0.00	2,400.73		0.40		2,409.23
Paving	0.08					0.00	0.00		0.00	0.00						0.00
Total	**4.59**	**27.70**	**17.08**	**0.03**		**2.41**	**2.41**		**2.41**	**2.41**	**0.00**	**2,400.73**		**0.40**		**2,409.23**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.21	0.17	2.25	0.00	0.01	0.01	0.02	0.00	0.01	0.01		201.57		0.02		201.94
Total	**0.21**	**0.17**	**2.25**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**201.57**		**0.02**		**201.94**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.14	0.24	1.49	0.00	0.14	0.01	0.15	0.00	0.01	0.01		130.06		0.01		130.26
Unmitigated	0.14	0.24	1.49	0.00	0.14	0.01	0.15	0.00	0.01	0.01		130.06		0.01		130.26
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	13.95	13.95	13.95	42,652	42,652
Total	13.95	13.95	13.95	42,652	42,652

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Other Asphalt Surfaces	9.50	7.30	8.40	0.00	0.00	100.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

North Tahoe

Lake Tahoe Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Other Asphalt Surfaces	4.24	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	14	**Precipitation Freq (Days)**	72		

1.3 User Entered Comments

Project Characteristics -

Land Use - paved area assumed to be 2.5 miles long, 14 feet wide

Construction Phase - 2.5 mile trail length, 13,200 feet at 100 linear feet per day = 132 days to construct

Off-road Equipment -

Grading - Total acres disturbed assumes there is a buffer on each side of the trail that will be disturbed during construction (2.5 miles x total width of 30 feet)

Vehicle Trips - Averaged trip lengths of 7.3 and 9.5, estimating trip emissions based on Non Res C-NW Trips only. Since project would increase daily VMT by 117, divided 117 VMT/day by 8.4 VMT/trip to get 13.93 new trips per day, for a trip rate of 3.2854.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2012	11.78	80.01	52.99	0.08	6.55	5.43	11.98	3.32	5.42	8.74	0.00	7,975.08	0.00	1.04	0.00	7,996.92
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2012	11.78	80.01	52.99	0.08	6.11	5.43	11.54	3.32	5.42	8.74	0.00	7,975.08	0.00	1.04	0.00	7,996.92
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.17	0.25	1.56	0.00	0.14	0.01	0.15	0.00	0.01	0.01		124.55		0.01		124.76
Total	**0.17**	**0.25**	**1.56**	**0.00**	**0.14**	**0.01**	**0.15**	**0.00**	**0.01**	**0.01**		**124.55**		**0.01**	**0.00**	**124.76**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.17	0.25	1.56	0.00	0.14	0.01	0.15	0.00	0.01	0.01		124.55		0.01		124.76
Total	**0.17**	**0.25**	**1.56**	**0.00**	**0.14**	**0.01**	**0.15**	**0.00**	**0.01**	**0.01**		**124.55**		**0.01**	**0.00**	**124.76**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Grading - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.09	0.00	6.09	3.31	0.00	3.31						0.00
Off-Road	6.76	51.98	31.88	0.05		3.00	3.00		3.00	3.00		5,240.07		0.60		5,252.76
Total	**6.76**	**51.98**	**31.88**	**0.05**	**6.09**	**3.00**	**9.09**	**3.31**	**3.00**	**6.31**		**5,240.07**		**0.60**		**5,252.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.18	0.14	1.73	0.00	0.20	0.01	0.20	0.00	0.01	0.01		143.26		0.01		143.54
Total	**0.18**	**0.14**	**1.73**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**143.26**		**0.01**		**143.54**

3.2 Grading - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.09	0.00	6.09	3.31	0.00	3.31						0.00
Off-Road	6.76	51.98	31.88	0.05		3.00	3.00		3.00	3.00	0.00	5,240.07		0.60		5,252.76
Total	**6.76**	**51.98**	**31.88**	**0.05**	**6.09**	**3.00**	**9.09**	**3.31**	**3.00**	**6.31**	**0.00**	**5,240.07**		**0.60**		**5,252.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.18	0.14	1.73	0.00	0.01	0.01	0.01	0.00	0.01	0.01		143.26		0.01		143.54
Total	**0.18**	**0.14**	**1.73**	**0.00**	**0.01**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**		**143.26**		**0.01**		**143.54**

3.3 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.51	27.70	17.08	0.03		2.41	2.41		2.41	2.41		2,400.73		0.40		2,409.23
Paving	0.08					0.00	0.00		0.00	0.00						0.00
Total	**4.59**	**27.70**	**17.08**	**0.03**		**2.41**	**2.41**		**2.41**	**2.41**		**2,400.73**		**0.40**		**2,409.23**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.25	0.19	2.30	0.00	0.26	0.01	0.27	0.00	0.01	0.01		191.02		0.02		191.39
Total	**0.25**	**0.19**	**2.30**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**191.02**		**0.02**		**191.39**

3.3 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.51	27.70	17.08	0.03		2.41	2.41		2.41	2.41	0.00	2,400.73		0.40		2,409.23
Paving	0.08					0.00	0.00		0.00	0.00						0.00
Total	**4.59**	**27.70**	**17.08**	**0.03**		**2.41**	**2.41**		**2.41**	**2.41**	**0.00**	**2,400.73**		**0.40**		**2,409.23**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.25	0.19	2.30	0.00	0.01	0.01	0.02	0.00	0.01	0.01		191.02		0.02		191.39
Total	**0.25**	**0.19**	**2.30**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**191.02**		**0.02**		**191.39**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.17	0.25	1.56	0.00	0.14	0.01	0.15	0.00	0.01	0.01		124.55		0.01		124.76
Unmitigated	0.17	0.25	1.56	0.00	0.14	0.01	0.15	0.00	0.01	0.01		124.55		0.01		124.76
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	13.95	13.95	13.95	42,652	42,652
Total	13.95	13.95	13.95	42,652	42,652

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Other Asphalt Surfaces	9.50	7.30	8.40	0.00	0.00	100.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

North Tahoe

Lake Tahoe Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Other Asphalt Surfaces	4.24	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	14	**Precipitation Freq (Days)**	72		

1.3 User Entered Comments

Project Characteristics -

Land Use - paved area assumed to be 2.5 miles long, 14 feet wide

Construction Phase - 2.5 mile trail length, 13,200 feet at 100 linear feet per day = 132 days to construct

Off-road Equipment -

Grading - Total acres disturbed assumes there is a buffer on each side of the trail that will be disturbed during construction (2.5 miles x total width of 30 feet)

Vehicle Trips - Averaged trip lengths of 7.3 and 9.5, estimating trip emissions based on Non Res C-NW Trips only. Since project would increase daily VMT by 117, divided 117 VMT/day by 8.4 VMT/trip to get 13.93 new trips per day, for a trip rate of 3.2854.

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.77	5.25	3.49	0.01	0.42	0.36	0.78	0.22	0.36	0.57	0.00	475.61	475.61	0.06	0.00	476.92
Total	**0.77**	**5.25**	**3.49**	**0.01**	**0.42**	**0.36**	**0.78**	**0.22**	**0.36**	**0.57**	**0.00**	**475.61**	**475.61**	**0.06**	**0.00**	**476.92**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2012	0.77	5.25	3.49	0.01	0.40	0.36	0.76	0.22	0.36	0.57	0.00	475.61	475.61	0.06	0.00	476.92
Total	**0.77**	**5.25**	**3.49**	**0.01**	**0.40**	**0.36**	**0.76**	**0.22**	**0.36**	**0.57**	**0.00**	**475.61**	**475.61**	**0.06**	**0.00**	**476.92**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.03	0.04	0.29	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	21.12	21.12	0.00	0.00	21.15
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.04**	**0.29**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**21.12**	**21.12**	**0.00**	**0.00**	**21.15**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.03	0.04	0.29	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	21.12	21.12	0.00	0.00	21.15
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.03**	**0.04**	**0.29**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**21.12**	**21.12**	**0.00**	**0.00**	**21.15**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Grading - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.40	0.00	0.40	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.44	3.40	2.09	0.00		0.20	0.20		0.20	0.20	0.00	311.28	311.28	0.04	0.00	312.04
Total	**0.44**	**3.40**	**2.09**	**0.00**	**0.40**	**0.20**	**0.60**	**0.22**	**0.20**	**0.42**	**0.00**	**311.28**	**311.28**	**0.04**	**0.00**	**312.04**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.12	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	8.80	8.80	0.00	0.00	8.82
Total	**0.01**	**0.01**	**0.12**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**8.80**	**8.80**	**0.00**	**0.00**	**8.82**

3.2 Grading - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.40	0.00	0.40	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.44	3.40	2.09	0.00		0.20	0.20		0.20	0.20	0.00	311.28	311.28	0.04	0.00	312.04
Total	**0.44**	**3.40**	**2.09**	**0.00**	**0.40**	**0.20**	**0.60**	**0.22**	**0.20**	**0.42**	**0.00**	**311.28**	**311.28**	**0.04**	**0.00**	**312.04**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.80	8.80	0.00	0.00	8.82
Total	**0.01**	**0.01**	**0.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**8.80**	**8.80**	**0.00**	**0.00**	**8.82**

3.3 Paving - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.30	1.83	1.13	0.00		0.16	0.16		0.16	0.16	0.00	143.70	143.70	0.02	0.00	144.21
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.31**	**1.83**	**1.13**	**0.00**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**143.70**	**143.70**	**0.02**	**0.00**	**144.21**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.16	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	11.83	11.83	0.00	0.00	11.85
Total	**0.01**	**0.01**	**0.16**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**11.83**	**11.83**	**0.00**	**0.00**	**11.85**

3.3 Paving - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.30	1.83	1.13	0.00		0.16	0.16		0.16	0.16	0.00	143.70	143.70	0.02	0.00	144.21
Paving	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.31**	**1.83**	**1.13**	**0.00**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**143.70**	**143.70**	**0.02**	**0.00**	**144.21**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.83	11.83	0.00	0.00	11.85
Total	**0.01**	**0.01**	**0.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**11.83**	**11.83**	**0.00**	**0.00**	**11.85**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.03	0.04	0.29	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	21.12	21.12	0.00	0.00	21.15
Unmitigated	0.03	0.04	0.29	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	21.12	21.12	0.00	0.00	21.15
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	13.95	13.95	13.95	42,652	42,652
Total	13.95	13.95	13.95	42,652	42,652

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Other Asphalt Surfaces	9.50	7.30	8.40	0.00	0.00	100.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Other Asphalt Surfaces	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Other Asphalt Surfaces	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Dollar Creek Shared-Use Trail

Natural Environment Study

Placer County, CA

June 2012

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

Dollar Creek Shared Use Trail

Placer County, CA

June, 2012

Placer County, CA

North Tahoe Public Utility District

California Tahoe Conservancy

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Approved By: _____ Date: _____

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List of Abbreviated Terms

Ac	acre(s)
ACOE	Army Corps of Engineers
ADA	Americans with Disabilities Act
BSA	Biological Study Area
C	degrees Celsius
CAL-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cm	centimeter(s)
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
dB	decibel
dbh	diameter at breast height (4.5ft)
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
EFH	Essential Fish Habitat
ESA	Environmental Science Associates
F	Degrees Fahrenheit
FESA	Federal Endangered Species Act
FMP	Fisheries Management Plan
ft	foot/feet
GIS	Geographic Information System
ha	hectare(s)
in	inch(es)
km	kilometer(s)

LCT	Lahontan cutthroat trout
LRMP	Land and Resource Management Plan
LRWQCB	Regional Water Quality Control Board, Lahontan Region
m	meter(s)
mi	mile(s)
MOA	Memorandum of Agreement
msl	mean sea level
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NPDES	National Pollutant Discharge Elimination System
NWP	Nationwide Permit
NOAA Fisheries	National Marine Fisheries Service
SEL	Sound Exposure Level
SHPO	State Historic Preservation Officer
SNFPA	Sierra Nevada Forest Plan Amendment
SNYLF	Sierra Nevada Yellow Legged Frog
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Chapter 1. Introduction

Placer County together with North Tahoe Public Utility District and the California Tahoe Conservancy are proposing to construct a paved Class I bicycle/pedestrian trail just south of the Truckee River. Phase 3B of the Truckee River Legacy Trail consists of a trail extension connecting the Truckee River Legacy Trail Phase 3A to Glenshire Drive at the west end of the Glenshire neighborhood in Truckee. Overall, the purpose of the proposed project is to provide a Class I trail consistent with the Master Plan that would expand upon existing recreational and commuting opportunities for local residents and visitors to the Town.

1.1. Project History

The proposed trail segment is part of the North Tahoe Trail system, which connects Homewood, Tahoe City and follows the Truckee River to Squaw Valley and Truckee, CA. Previously this project was a part of the North Tahoe Bike Trial proposal that was proposed to connect Tahoe City to Kings Beach, CA. An EIR/EIS was prepared and certified in 1991. The project was never constructed.

1.2. Project Description

The Project establishes a Class 1 or better shared-use trail (i.e., a 10-foot wide paved trail with 2-foot clear zones on each side), a bridge span over Dollar Creek, a marked pedestrian crossing at SR 28 and Dollar Drive, a neighborhood connector at Country Club Drive, and an optional trailhead parking area off of SR 28. The Project provides for an extension of the Tahoe City bicycle trail network, linking residential and recreation uses to jobs, schools, shopping, lodging, and recreation and community areas. Figure 2 illustrates the general Project alignment and Project location. The 2.2 miles of proposed new shared-use trail extends the existing Tahoe City to Dollar Point trail, which ends near the intersection of Dollar Drive and SR 28, to the end of Fulton Crescent Drive, through public lands commonly known as the Dollar and Firestone properties owned and managed by the Conservancy and NTPUD. The Project enhances recreational and transportation opportunities by extending the existing paved trail network in the Tahoe City area, including Tahoe City Public Utility District's (TCPUD) 10-mile Class 1 trail from Tahoe City to Sugar Pine Point State Park and the 3.7 mile trail along the Truckee River to Squaw Valley.

The Project independently implements a smaller portion of the previously studied, eight-mile North Tahoe Bike Trail, connecting Dollar Hill and Tahoe Vista. The Project implements specific goals and policies of the TRPA to provide a non-motorized alternative transportation corridor through North Lake Tahoe. The Project is included in the TRPA Environmental Improvement Program (EIP) as project 761.

The shared-use trail alignment generally follows existing informal trails located on Conservancy, NV Energy, and NTPUD-owned parcels as illustrated in Figure 3. The Project complements the Conservancy-funded Tahoe City "Wye" Recreational Access Project, which provides bike trail parking at the junction of SR 28 and SR 89 in Tahoe City. Construction of the Project will also be a step toward completion of the Lake Tahoe Regional Bicycle and Pedestrian Master Plan (Tahoe Metropolitan Planning Organization 2010).

Trail development details comply with the American Association of State Highway and Transportation Officials (AASHTO) guidelines and American Disability Act (ADA) design standards and include informal trail consolidation, recognition or decommissioning as determined appropriate from environmental analysis and public feedback, as well as disturbed land restoration along its length.

The Project consists of sections of asphalt concrete trail on grade, asphalt trail on permeable fill/vented trail, and a bridge span over Dollar Creek. Asphalt concrete trail on grade and on permeable fill is 10-feet wide with an additional two (2) feet of clear zone or shoulder on each side of the trail. The bridge span is approximately 100-feet long and between up to 14-feet wide.

Stream Environment Zone (SEZ) impacts have been avoided through the Project design, facility features, and trail location. Environmental analysis estimates total SEZ encroachment, in this case land coverage from the bridge crossing, at 286 square feet, which will require restoration of approximately 430 square feet of Land Capability District (LCD) 1b lands to offset encroachment at a ratio of 1.5 times the total disturbance.

Based on the Tahoe Region Bicycle/Pedestrian Use Model, daily trail usage by bicyclist and pedestrians is expected to be between 233 and 449 users. Detailed discussion of potential trail usage is provided in Chapter 3 of the Initial Study, Section 3.2.16 that has been prepared for this project.

Preliminary field surveys identified trees that must be removed or circumvented to construct the Project. Trees equal to or greater than 30-inches at diameter breast height (dbh) are avoided as required by TRPA regulations by field fitting the shared-use trail during final design and construction.

Figure 1 – Location Map

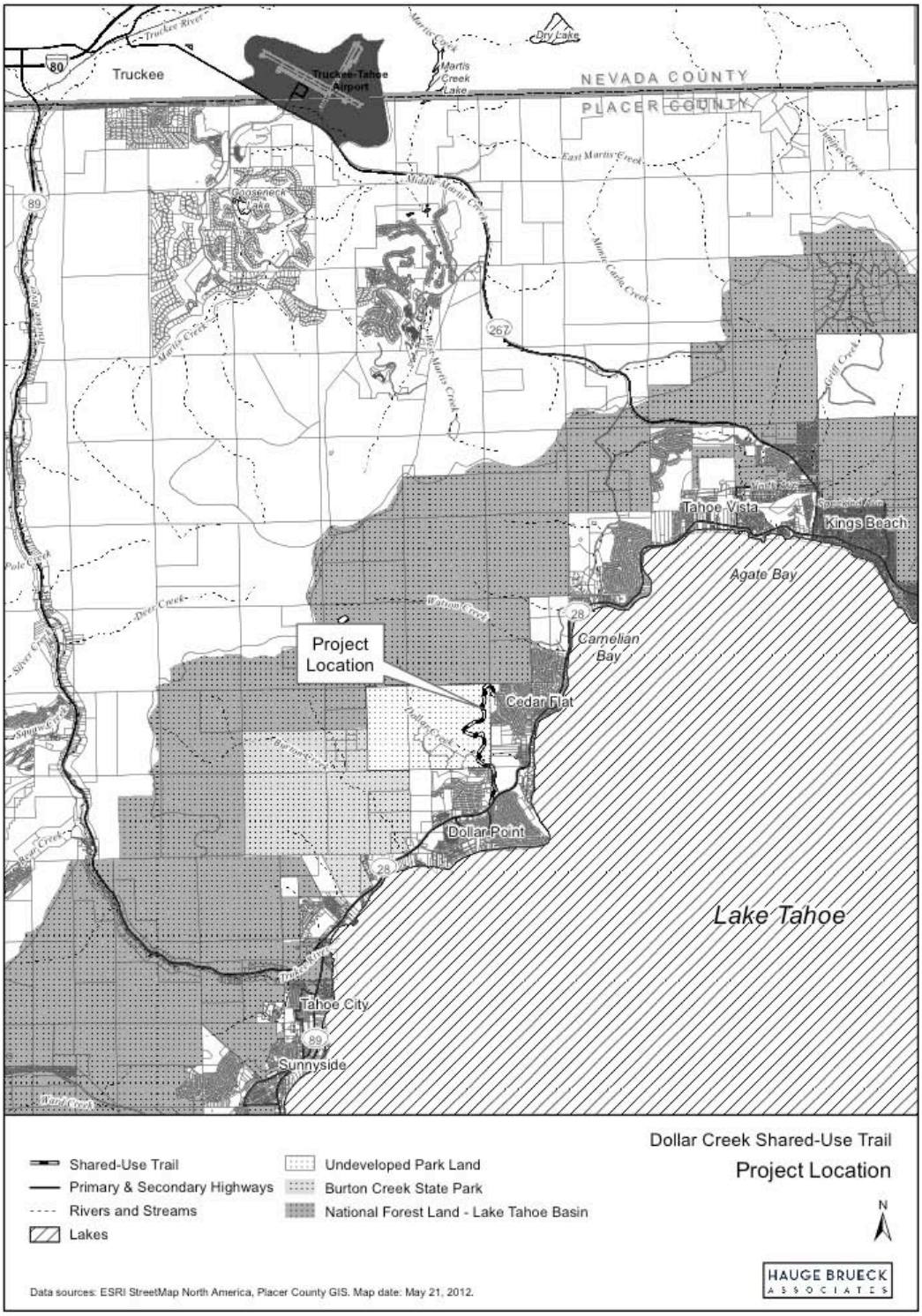

Figure 2 – Habitat Map

Chapter 2. Study Methods

For purposes of this report, the Biological Study Area (BSA) is defined as an approximately 259 acre area encompassing potential project related impacts (Figure 2). The assessment provided in this report includes a review of the vegetation and wildlife habitats, special-status species, and jurisdictional waters of the U.S. that occur or have the potential to occur in the BSA. The results of this assessment are based upon field reconnaissance, protocol level species-specific surveys, literature searches, and database queries.

2.1. Regulatory Requirements

Regulatory requirements for the trail may include a Section 404 Clean Water Act permit from the ACOE. A flood plain exemption as well as a Section 401 Water Quality Certification may be required by the LRWQCB. A project permit will be required from the Tahoe Regional Planning Agency as well as approval from Placer County Public Works and Community Development.

2.2. Studies Required

Prior to conducting the field survey, a list of special-status plants and wildlife known to potentially occur within the vicinity of the project was reviewed. Sources consulted in preparation of the list of target plant taxa included the California Natural Diversity Database (CNDDB) (CDFG 2011) (Appendix A) and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2011) (Appendix B) for the Kings Beach, Tahoe City, Truckee, Martis Peak, Homewood, Meeks Bay, and Emerald Bay USGS 7.5 minute USGS quadrangles. Sources consulted for fish and wildlife species included the CNDDB (Appendix A), a USFWS list of potentially affected federally threatened and endangered species (USFWS 2010) (Appendix C), and Zeiner (1988, 1990). The list was then used to focus the botanical and wildlife field investigations on the targeted species and the habitats known to support these species. Additional reference data used in the preparation of this report includes the following:

- Special Plants List (CDFG 2009a)
- Special Animals List (CDFG 2009b)
- Federally listed threatened, endangered, or candidate species and USFS designated sensitive animal species (Appendix D)

- TRPA special interest, threatened, endangered or rare species (Chapter 78 Code of Ordinances)

2.3. Personnel and Survey Dates

The BSA was surveyed by HBA biologists Garth Alling and Amy Parravano between June 2011 and September 2011. ESA botanist Joshua Boldt and fisheries biologist Jamie Galos visited the site on 13 October 2011. Field reconnaissance was conducted by walking the entire BSA and evaluating the potential for regionally occurring sensitive habitats and special-status species to occur within the BSA. Plant communities and habitats were recorded onto a rectified aerial photographs, and plant species were identified and recorded. A preliminary jurisdictional wetland delineation was performed on July 27, August 26, and September 6, 2011 by Amy Parravano, certified wetland delineator. These habitat features (including jurisdictional waters of the U.S.) were digitized with geographic information system (GIS) software to provide digital habitat data for quantitative analysis. Sensitive species surveys (northern goshawk, California spotted owl and yellow warbler) were performed by Garth Alling between June and September 2011.

Chapter 3. Results: Environmental Setting

This chapter provides a description of the regional setting in which the project will occur and includes a characterization of the biological conditions in the BSA. The BSA is approximately 259 acres in size and includes all proposed project grading, construction and disturbance areas (Figure 2).

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Biological Study Area

The BSA is in the Sierra Nevada Ecological Section and the Tahoe – Truckee Ecological Subsection of the Ecological Subregions of California (USDA Forest Service 1997). Regional natural plant communities in the BSA include those that are common to the Sierra Nevada such as coniferous forests, montane chaparral, and montane riparian. Climate is typically temperate to very cold and dry. Typical elevations within this ecological subsection range from 1,524 to 2,788 m (5,000 to 9,143 ft) above msl. Mean annual precipitation in the subsection is approximately 51 to 102 centimeters (cm) (20 to 40 inches [in]) (most of this being snow), while the mean annual temperature ranges from 1.7 to 7.2 degrees Celsius (C) (35 to 45 degrees Fahrenheit [F]) (USDA Forest Service 1997). More specifically for the BSA, data from the Western Regional Climate Center for the Tahoe, California weather station indicates that average annual precipitation is 31.47 in and average annual snowfall is 190.9 in. The average maximum annual temperature is 56.0 degrees F and average minimum annual temperature is 30.5 degrees F (Western Regional Climate Center 2012).

The BSA is located to the east of Tahoe City and northwest of Dollar Point. The BSA includes five wildlife habitat types: Sierran mixed coniferous forest, montane chaparral, and montane riparian.

3.1.2. Physical Conditions

Elevations in the BSA range from approximately 6,500ft above msl to approximately 6,700 above msl. Adjacent land use is characterized by rural residential development to the south and east, Burton State Park to the west and National Forest Land to the north of the BSA.. Within the BSA natural topography gently slopes from west to east, and drains to the east through Dollar Creek.

The Tahoe Basin, situated east of the Sierra Nevada Crest, lies within the eastern portion of the Sierra Nevada Geomorphic Province. The Sierra is a tilted fault block nearly 645 km (400 mi) long. Its east face is a high, rugged multiple scarp, contrasting with the gentle western slope. Cenozoic volcanic rocks predominate in this subsection. There are some Mesozoic granitic rocks, Jurassic marine sedimentary rocks, and Jurassic and older metavolcanic rocks. The Cenozoic volcanic rocks are mostly Pliocene andesite, basalt and pyroclastic rocks and Pleistocene basalt (USDA Forest Service 1997).

Dollar Creek, a natural, perennial waterway, flows in a southeasterly direction from the eastern flank of Mt. Watson. Dollar Creek crosses SR 28 to the east of the BSA and flows into Lake Tahoe. The outflow of water from Lake Tahoe is confined to the Truckee River. The Truckee River originates at the outlet of the dam at Lake Tahoe near Tahoe City and flows eastward to its terminus at the topographically closed Pyramid Lake in Nevada. The Truckee River headwaters, where altitudes exceed 3,049 m (10,000 ft) above msl, flow into Lake Tahoe. Runoff generated in the Lake Tahoe and upper Truckee River subunit supplies most of the water to the Truckee River system. Truckee River flows are heavily dependent on the yearly snowpack of the Sierra Nevada, with high flows generally occurring in the spring or early summer.

3.1.3. Biological Conditions in the Biological Study Area

A reconnaissance survey of the BSA was conducted by HBA biologists Garth Alling and botanist Amy Parravano in June of 2011. Calculated areas of wildlife habitats and vegetation communities delineated within the BSA are shown in **Table 1**. Within the BSA, natural topography gently slopes from west to east. Overall, the BSA has been relatively undisturbed with the exception of dirt trails and roadways and installation of the dam on Dollar Creek to create a reservoir that was used for ice harvesting in the .

Wildlife habitats were classified using the CDFG's *A Guide to Wildlife Habitats* (Mayer and Laudenslayer 1988), which is integrated with the California Wildlife Habitat Relationships (CWHR) System. Wildlife habitats generally correspond to plant communities. Plant communities are assemblages of plant species that occur together and are repeated across landscapes, and each community type is defined by plant species composition and relative abundance. Wildlife habitats in the BSA include Sierran mixed conifer forest, montane chaparral, and montane riparian. The BSA also includes portions of the perennial Dollar Creek, and associated/adjacent riparian wetlands.

Table 1
Habitat Types Within the BSA

CDFG/CWHR Habitat Type	Area (ac)	Percentage of BSA Area
Sierran Mixed Coniferous Forest	252.98	98%
Montane Chaparral	3.76	1.4%
Montane Riparian (Wetland)	0.52	0.3%
Riverine (Dollar Creek)	0.83	0.3%
Total	258.09	100%

Source: HBA 2012

Sierran Mixed Coniferous Forest

Vegetation classified as Sierran mixed coniferous forest occurs on shallow, well drained granitic soils in montane habitats up to approximately 7,000 ft msl. Within the BSA, this community is generally dominated by Jeffrey pine (*Pinus jeffreyi*) and white fir (*Abies concolor*), with occasional sugar pine (*Pinus lambertiana*), ponderosa pine (*Pinus ponderosa*), red fir (*Abies magnifica*), and incense cedar (*Calocedrus decurrens*) in the overstory, and lodgepole pine (*Pinus contorta* ssp. *murrayana*) in the subcanopy. Common understory herbaceous species include mule's ears (*Wyethia mollis*), mountain snowberry (*Symphoricarpos rotunidifolius* var. *rotundifolius*), diffuse gayophytum (*Gayophytum diffusum* var. *parviflorum*), squirreltail (*Elymus elmoides*), and blue wildrye (*Elymus glaucus*). The forest structure tends to be characterized by several age classes and has a well developed understory. Mammals associated with this habitat include black-tail deer (*Odocoileus hemionus columbianus*), mule deer (*Odocoileus hemionus*), white-tailed jackrabbit (*Lepus townsendii*), black bear (*Ursus americanus*), mountain lion (*Puma concolor*), coyote (*Canis latrans*), bobcat (*Lynx rufus)*, porcupine (*Erethizon dorsatum)*, and various bat species. Common birds include the red-tailed hawk (*Buteo jamaicensis*), stellar jay (*Cyanocitta stelleri*), California quail (*Callipepla californica*), mountain chickadee (*Poecile gambeli*), and the introduced turkey (*Meleagris gallopavo*).

Montane Chaparral

Montane chaparral habitat type typically occurs on rocky, granitic southern and western exposures, and is located along the west facing slopes on the east most portion of the BSA. Montane chaparral plants possess the typical characteristics of drought-adapted species: small, leathery, often evergreen leaves and deep taproot systems that exploit fissures in the weathering bedrock to access groundwater after surface moisture has

disappeared. Patches of montane chaparral occur in forest canopy openings in the BSA, including species such as pinemat manzanita (*Arctostaphylos nevadensis*), greenleaf manzanita (*A. patula*), tobacco brush (*Ceanothus velutinus*), mountain whitethorn (*C. cordulata*), and bitterbrush (*Purshia tridentata*), with occasional Sierra chinquapin (*Chrysolepis sempervirens*) and huckleberry oak (*Quercus vaccinifolia*) occurring among occasional rock outcrops. Animals associated with this habitat are similar to the Jeffrey pine habitat.

Riverine (Perennial Drainage)

Riverine habitat within the BSA is located along Dollar Creek within the BSA. Riverine habitat associated with the Dollar Creek supports adjacent riparian and seasonal wetlands. Dollar Creek has suitable habitat for the Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi)*. This federally threatened species historically occurred in all accessible cold waters of the Lahontan Basin in a wide variety of water temperatures and conditions, and requires gravel riffles in streams for spawning. Other native fish species include the Tahoe sucker (*Catostomus tahoensis*) and the speckled dace (*Rhinichthys osculus*). Nonnative introduced salmonids also occur within Lake Tahoe and associated tributaries including rainbow trout (*Oncorhynchus mykiss*), brook trout (*Salvelinus fontinalis*), and brown trout (*Salmo trutta*).

Montane Riparian

The vegetation of montane riparian zones is quite variable and often structurally diverse. At the project site, the montane riparian zone occurs as a narrow, dense grove of broad-leaved, winter deciduous trees and shrubs as well as occasional evergreen trees with a grassy understory along the banks of Dollar Creek. Streamside riparian vegetation is composed of mountain alder (*Alnus incana ssp. tenuifolia*) and creek dogwood (*Cornus sericea* ssp. *sericea*). Wetland vegetation along the perennial stream benches in the BSA provides patchy tree and shrub layers dominated by willow and interspersed by hydrophytic sedge and grass species such as creeping bentgrass (*Agrostis stolonifera*), and Nebraska sedge (*Carex nebrascensis*), Baltic rush (*Juncus balticus*).

All riparian habitats have an exceptionally high value for many wildlife species. Such areas provide water, thermal cover, migration corridors, and diverse nesting and feeding opportunities. The shape of many riparian zones, particularly the linear nature of streams, maximizes the development of ecotones which are highly productive for wildlife. A wide range of amphibians, reptiles, birds, and mammals utilize montane riparian habitat for food, cover and reproduction. Riparian wetland provides forage and cover for reptiles,

such as lizards and common garter snakes (*Thamnophis sirtalis*), as well as birds, including yellow warbler (*Dendroica petechia*), American robin (*Turdus migratorius*), and mountain chickadee. Small mammals such as voles and mice may also use this habitat.

3.2. Regional Species and Habitats of Concern

The BSA provides a variety of habitat for several special-status plant and wildlife species. **Table 2** lists the sensitive species that may occur regionally and indicates (see column titled "Habitat Present / Absent") whether the BSA provides potential habitat for these species. The BSA provides potential habitat for eight different special-status wildlife species and 14 different special-status plant species.

Table 2: Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Fish				
Gila bicolor pectinifer Lahontan Lake tui chub	DSS	Occurs in Pyramid Lake and in Lake Tahoe to a lesser extent. Also occurs in the Stampede Reservoir on the Lower Truckee River.	A	No suitable habitat within the BSA.Species confined to Lake Tahoe and Pyramid Lake, and a few reservoirs.
Hypomesus transpacificus Delta smelt	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchus clarkiihenshawi Lahontan cutthroat trout	FT	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temps & conditions. Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	HP	Limited suitable spawning habitat in the BSA. Introduced predatory salmonids occur within Dollar Creek in the BSA. Species likely extirpated from Lake Tahoe and Dollar Creek.
Oncorhynchus mykiss irideus Steelhead – Central Valley DPS	FT	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchus tshawytscha Chinook salmon – Central Valley spring-run ESU	FT/ST	Populations in the Sacramento River and its tributaries.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Oncorhynchus tshawytscha Chinook salmon – Sacramento River winter-run ESU	FE/SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Amphibians				
Ambystoma californiense California tiger salamander, central population	FT/ST/ CSC	Needs vernal pools or other seasonal water sources for breeding. Uses underground refuges, especially ground squirrel burrows.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 2: Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Lithobates pipiens Northern leopard frog (native populations only)	CSC	Highly aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics. Native range is east of the Sierra Nevada-Cascade crest.	A	No suitable habitat within the BSA. Potential habitat adjacent to BSA at Dollar Creek Reservoir. However, species likely introduced to the Tahoe Basin. Species does not appear to have established a population in the Tahoe Basin, and have not been recorded in the basin since the 1940s.
Rana draytonii California red-legged frog	FT/CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Rana sierrae Sierra Nevada yellow-legged frog	FC/SC/ CSC	Streams, lakes, and ponds in montane riparian habitats. Always encountered within a few feet of water. Tadpoles may require 2 - 4 years to complete their aquatic development.	HP	Limited suitable habitat in the project vicinity. Introduced predatory salmonids occur within the stream channels in the BSA.
Reptiles				
Thamnophis gigas Giant garter snake	FT/ST	The most aquatic of the garter snakes in California. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Birds				
Accipiter gentilis Northern goshawk	CSC	Within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Dense stands of mature red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest tree sites.	HP	Suitable nesting and foraging habitat present within the BSA. Species not identified during protocol surveys.
Dendroic apetechia Yellow warbler	CSC	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	HP	Suitable habitat within the BSA at the along Dollar Creek. Species not identified during birds surveys.
Empidonax traillii Sierra Nevada willow flycatcher	SE	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	A	Suitable habitat not present in the BSA.
Pandion haliaetus Osprey	CSC/TRP A	Inhabits areas associated with rivers, lakes and coastlines. Builds nest in large trees adjacent to waterbodies.	HP	Suitable nesting habitat located within BSA.
Strix occidentalis occidentalis California spotted owl	CSC	Nesting habitat is characterized by dense canopy closure (>70%) with medium to large trees and multi-storied structure stands.	HP	Suitable nesting and foraging habitat present within the BSA.
Mammals				

Table 2: Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Aplodontia rufa Mountain beaver	CSC	Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	HP	Suitable habitat present below Dollar Creek Reservoir along Dollar Creek.
Gulo gulo California wolverine	ST	Typically found in very remote areas of the northern North America and high elevation areas of the Sierra Nevada and Rocky Mountains.	A	The presence of a populated area in and near the BSA precludes the use of the area by wolverine.
Lepus americanus tahoensis Sierra Nevada snowshoe hare	CSC	Boreal riparian areas in the Sierra Nevada. Thickets of deciduous trees in riparian areas and thickets of young conifers.	A	Limited suitable habitat in the BSA.
Lepus townsendii White-tailed jackrabbit	CSC	Sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland east of the Sierra Crest.	A	Limited suitable habitat in the BSA.
Martes americana sierrae Sierra marten	CSC	Preferred habitat is characterized by dense, multi-storied coniferous forest that includes a high percentage of snags and downed logs in proximity to riparian corridors.	HP	Suitable habitat present within the BSA.
Martes pennanti Pacific fisher	FC	Extensive forested areas with continuous canopy in higher elevations. Avoids entering open areas that have no overstory or shrub cover.	A	No suitable habitat within the BSA.
Vulpes vulpes necator Sierra Nevada red fox	ST	Found in a variety of alpine habitats from wet meadows to forested areas. Use dense vegetation & rocky areas for cover & den sites. Prefer forests interspersed with meadows or alpine fell-fields.	A	Limited suitable habitat within the BSA
Invertebrates				
Branchinecta conservatio Conservancy fairy shrimp	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, lasting until June.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Branchinecta lynchi vernal pool fairy shrimp	FT	Endemic to the grasslands of the Central Valley, central Coast Mountains, and south Coast Mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassland swale, earth slump, or basalt-flow depression pools.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.

Table 2: Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Capnia lacustra *Lake Tahoe benthic stonefly*	DSS	Endemic to Lake Tahoe. Found at depths of 95-400 feet. Associated with deepwater plant communities of algae, mosses and liverworts.	A	No suitable habitat within the BSA. BSA does not include Lake Tahoe.
Desmocerus californicus dimorphus Valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California, in association with elderberry (*Sambucus* spp.).	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Helisoma newberryi Great Basin ram's-horn	DSS	Occurs in larger lakes and rivers, including larger spring sources and spring fed creeks, where it burrows into soft mud.	A	No suitable habitat within the BSA.
Lepidurus packardi Vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands.	A	No suitable habitat within the BSA. BSA outside the geographic range of the species.
Plants and Fungi				
Arabis rigidissima var. *demota* Galena Creek rock-cress	TRPA, 1B.2	Fir- pine-quaking aspen associations, meadow edges, usually on north-facing slopes and rocky outcrops. Typically found on well-drained, stony soil underlain by basic volcanic rock. Elevation 2,255 to 2,560 m (7,400 to 8,400 ft). Blooms August..	A	No suitable habitat within the BSA. BSA outside the known elevational range of the species.
Botrychium ascendens upswept moonwort	2.3	Moist habitats near springs and streams. Elevation 1,500 to 2,060 m (4,920 to 6,760 ft). Fertile in August.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium crenulatum scalloped moonwort	2.2	Marshes, meadows, seeps, bogs and fens, streambanks and other moist habitats. Elevation 1,500 to 2,670 m (4,920 to 8,760 ft). Fertile July-August.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium lunaria common moonwort	2.3	Meadows, seeps, and other moist habitats. Elevation 2,740 to 3,400 m (8,990 to 11,150 ft). Fertile period not specified in the literature.	A	No suitable habitat within the BSA. BSA is below the documented elevation range of the species.
Botrychium minganense mingan moonwort	2.2	Streambanks, meadows and other moist habitats. Elevation 1,500 to 2,275 m (4,920 to 7,460 ft). Fertile period not specified in the literature.	HP	Suitable habitat along banks of Dollar Creek.
Botrychium montanum western goblin	2.1	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest/mesic. Streambanks in old-growth forest. Elevation 1,500 to 1,830 m (4,920 to 6,000 ft). Fertile period not specified in the literature.	A	No suitable habitat within the BSA. BSA is above the documented elevation range of the species.

Table 2: Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Carex davyi Davy's sedge	1.B	Known to occur in moist meadows and rocky slopes in subalpine coniferous forest and upper montane coniferous forest. Blooms May-August.	HP	Suitable habitat along banks of Dollar Creek.
Carex lasiocarpa woolly-fruited sedge	2.3	Generally in standing water in sphagnum bogs, freshwater marsh, lakes, and ponds. Elevation 1,800 to 2,100 m (5,900 to 6,900 ft). Blooms June-July.	HP	Suitable habitat along banks of Dollar Creek.
Carex mariposana Mariposa sedge	TRPA	Red fir and subalpine coniferous forest, montane meadows; 1,200-3,200 m (3,937-10,500 ft). Blooms July-September.	HP	Suitable habitat along banks of Dollar Creek.
Carex praticola Northern meadow sedge	2.2	Moist to wet meadows from sea level to 10,400'. Blooms May-July.	HP	Suitable habitat along banks of Dollar Creek.
Epilobium oreganum Oregon fireweed	1B.2	Upper montane coniferous forest, lower montane coniferous forest, in or near streams, bogs, or fens; 500-2,240 m (1,640-7,350 ft). Blooms June – September.	HP	Suitable habitat along banks of Dollar Creek.
Erigeron eatonii var. nevadincola Nevada daisy	2.3	Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland, and rocky substrates. Only information for nearby collection is 1915 collection by Brainerd and Baird. 1,400-2,900 m (4,600-9,514 ft). Blooms May–July.	A	No suitable habitat within the BSA.
Erigeron miser starved daisy	1B.3	Rocky, granitic outcrops in upper montane coniferous forest. Elevation 1,755 to 2,260 m (5,760 to 7,415 ft). Blooms June-October.	A	No suitable habitat within the BSA.
Eriogonum umbellatum var. *torreyanum* Donner Pass buckwheat	1B.2	Rocky, volcanic soils on steep slopes and ridgetops, usually in bare or sparsely vegetated areas. Elevation 1,840 to 2,620 m (6,040 to 8,600 ft). Blooms July-September.	A	No suitable habitat on steep slopes or ridgetops within the BSA.
Glyceria grandis American managrass	2.3	Wet meadows, ditches, streams, and ponds. Elevation 15 to 1,980 m (50 to 6,500 ft). Blooms June-August.	HP	Suitable habitat within and along banks of Dollar Creek.
Ivesia sericoleuca Plumas ivesia	1B.2	Vernally mesic areas, usually on volcanic substrates, within Great Basin scrub, lower montane coniferous forest, meadows, and vernal pools. Elevation 1,450 to 2,000 m (4,755 to 6,560 ft). Blooms May-October.	A	No suitable habitat within the BSA.
Juncus luciensis Santa Lucia rush	1B.2	Vernal pools, ephemeral drainages, wet meadows, and stream banks. Elevation 300 to 2,040 m (985 to 6,690 ft). Blooms April-July.	HP	Suitable habitat along banks of Dollar Creek.

Table 2: Regional Species and Habitats of Concern

Common Name Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Lewisia longipetala *long-petaled lewisia*	TRPA, 1B.3	Alpine boulder and rock field, Subalpine coniferous forest (mesic, rocky)/granitic. Known from fewer than twenty occurrences. Possibly threatened by horticultural collecting; 2,500-2,925 m (8,200-9,600 ft). Blooms July-August.	A	No suitable habitat within the BSA.
Meesia uliginosa Broad-nerved hump moss	2.3	Bogs and fens, meadows and seeps, upper montane coniferous forest on mesic soil; 1,300-2,500 m. Fertile period not specified in the literature.	HP	Suitable habitat along banks of Dollar Creek.
Rhamnus alnifolia alder buckthorn	2.2	Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, montane riparian scrub. Elevation 1,370 to 2,130 m (4,495 to 6,990 ft). Blooms May-July.	HP	Suitable habitat along banks of Dollar Creek.
Rorippa subumbellata Tahoe yellow-cress	FC/SE/ 1B.1	On decomposed granite sand on beaches and lakeside margins and in riparian communities. Known only from the shores of Lake Tahoe. Elevation 1,885 to 1,900 m (6,185 to 6,235 ft). Blooms May-September.	A	No suitable habitat within the BSA. Species is known only from the shoreline of Lake Tahoe.
Scutellaria galericulata marsh skullcap	2.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevations 0 to 2,100 m (0 to 6,890 ft). Blooms June-September.	HP	Suitable habitat along Dollar Creek and the edges of Dollar Reservoir in the BSA.
Sphaeralcea munroana Munro's desert mallow	2.2	Dry, open sites in Great Basin scrub. Elevation 2,000 m (6,560 ft). Blooms May-June.	A	Suitable habitat not present within the BSA.
Stuckenia filiformis *Slender-leaved pondweed*	2.2	Marshes and swamps, clear water of lakes and drainage channels (assorted shallow water); 15-2,310 m (50 to 7,575 ft). Blooms May-July.	HP	Suitable habitat within Dollar Reservoir, directly adjacent to the BSA.

SOURCE: ESA/HBA 2012
Status Codes: Federal Threatened (FT); Federal Candidate (FC); State Endangered (SE); State Threatened (ST); California Species of Special Concern (CSC); TRPA Sensitive Species (TRPA); California Native Plant Society (CNPS) 1B.1 – Rare, threatened, or endangered in California and elsewhere, seriously threatened in California ; 1B.2 – Rare, threatened, or endangered in California and elsewhere, fairly threatened in California; 2.1 – Rare, threatened, or endangered in California, but more common elsewhere, and seriously threatened in California; 2.2 – Rare, threatened, or endangered in California, but more common elsewhere, and fairly threatened in California; 2.3 – Rare, threatened, or endangered in California, but more common elsewhere, and not very threatened in California.
Habitat Present / Absent Code: Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. The species may be present. Present [P] - the species is present.

Source: USFS 2010
[a] All CWHR size classes and canopy closures are included unless otherwise specified. **Tree size classes:** 1 (Seedling) = <1" dbh; 2 (Sapling) = 1"-5.9" dbh; 3 (Pole) = 6"-10.9" dbh; 4 (Small tree) = 11"-23.9"; 5 (Medium/Large tree) = ≥24" dbh. **Closure classification:** S = Sparse cover (10-24% canopy closure); P = Open cover (25-39% canopy closure); M = Moderate cover (40-59% canopy closure); D = Dense cover (60-100% canopy closure).
[b]**Category 1:** MIS whose habitat is not in or adjacent to the BSA and would not be affected by the project.

Category 2: MIS whose habitat is in or adjacent to the BSA, but would not be either directly or indirectly affected by the project.
Category 3: MIS whose habitat would either be directly or indirectly affected by the project.

3.3. Noxious Weeds

Vegetation communities in the BSA are dominated by native species, and the communities are in a relatively natural condition. Disturbance in the BSA is minimal, and is limited to some existing dirt roads and paths. However, the botanical survey conducted by Hauge Brueck Associates in 2011 did record several non-native species, including species that are considered noxious weeds by the California Department of Food and Agriculture (CDFA) and the California Invasive Plant Council (CAL-IPC), such as creeping bentgrass (*Agrostis stolonifera*), bull thistle (*Cirsium vulgare*), , Klamath weed (*Hypericum perforatum*), and Kentucky bluegrass (*Poa pratensis*).

See **Table 3** for weed species known or potentially occurring in or near the BSA.

Table 3
Weed Species Known or Potentially Occuring in or Near The BSA

Species	CDFA	CAL-IPC	Species Present?
Agrostis stolonifera *Creeping bentgrass*		Limited	Y
Bromus tectorum cheatgrass			N
Cardaria draba hoary cress	B		N
Carduus nutans musk thistle	A	Moderate	N
Centaurea calcitrapa purple star-thistle	B	Moderate	N
Centaurea diffusa diffuse knapweed	A	Moderate	N
Centaurea maculosa spotted knapweed	A	High	N
Centaurea solstitialis yellow star-thistle	C	High	N
Centaurea squarrosa squarrose knapweed	A		N
Chondrilla juncea Rush skeletonweed	A	Moderate	N
Cirsium arvense Canada thistle	B	Moderate	N
Cirsium vulgare bull thistle	C	Moderate	Y
Convolvulus arvensis field bindweed	C		N
Cytisus scoparius Scotch broom	C	High	N
Dactylis glomerata orchard grass		Limited	N
Dipsacus fullonum Teasel		Moderate	N
Hypericum perforatum Klamath weed	C		Y
Lepidium latifolium Perennial pepperweed	B	High	N
Leucanthemum vulgare ox eye daisy		Moderate	N
Linariagenis tifolia ssp. *dalmatica* Dalmatian toadflax	S	Moderate	N

Linaria vulgaris yellow toadflax		Moderate	N
Myriophyllum spicatum Eurasian watermilfoil	C	High	N
Onorpordum acanthium Scotch thistle	A	High	N
Poa pratensis Kentucky bluegrass		Limited	Y
Potentilla recta sulfur cinquefoil	Q		N
Rumex crispus curly dock		Limited	N
Sonchus arvensis perennialsowthistle	A		N
Taeniatherum caput-medusae Medusa-head	C	High	N
Verbascum thaspus woolly mullein			N

NOTES:

CDFA: The CDFA noxious weed list (http://www.cdfa.ca.gov/phpps/ipc/) divides noxious weeds into categories A, B, and C. A-listed weeds are those for which eradication or containment is required at the state or county level. With B-listed weeds, eradication or containment is at the discretion of the County Agricultural Commissioner. C-listed weeds require eradication or containment only when found in a nursery or at the discretion of the County Agricultural Commissioner. Q-listed weeds require temporary "A" action pending determination of a permanent rating.

CAL-IPC: The CAL-IPC Invasive Plant Inventory categorizes non-native invasive plants that threaten the state's wildlands. The Inventory categorizes plants as High, Moderate, or Limited, reflecting the level of each species' negative ecological impact in California.

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1. Natural Communities of Special Concern

Wildlife habitat types were classified using CDFG's *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988) (see Table 1), which is integrated with the California Wildlife Habitat Relationships (CWHR) System. These habitat types were then converted to natural community types (using *Preliminary Descriptions of the Terrestrial Natural Communities of California* – Holland 1986) in order to determine if any natural communities of special concern would be impacted by the proposed project. The CDFG uses its California Natural Diversity Database (CNDDB) to track rare natural communities, and this database was consulted to determine the rarity of the natural community types in the BSA. Potential natural communities of special concern that may be affected by the proposed project include montane riparian scrub. **Table 5** identifies the amount of each habitat type that would be temporarily and permanently impacted by implementation of the proposed project.

Table 4
Temporary and Permanent Habitat Impacts

CDFG Habitat Type	Permanent Effects		Temporary Effects [a]	
	Area (acres)	% Habitat [b]	Area (acres)	% Habitat [b]
Sierran Mixed Conifer Forest	2.85	1.1%	0.5	0.001%
Montane Chaparral	0	0%	0	0
Montane Riparian (Wetlands) [c]	0	0%	0	0

Source: HBA 2012
[a] Temporary impacts include acreage outside of the construction footprint (i.e. staging and work areas); permanent impacts include acreage within the construction footprint (i.e., trail, grading, and abutments).
[b] The number in this column represents the percentage of the habitat type within the BSA that would be affected.
[c] Montane Riparian (Wetlands) considered natural community of special concern Montane Riparian Scrub and tracked by CNDDB.

4.1.1. Montane Riparian Scrub

Montane riparian scrub within the BSA is composed of mountain alder (*Alnus incana* ssp. *tenuifolia*), and mountain dogwood (*Cornus nuttallii*). Wetland vegetation along the perennial stream benches in the BSA provides continuous tree and shrub layers dominated by dogwood and interspersed by wetland forbs such as Oregon checker

mallow (*Sidalcea oregana* ssp. *spicata*) and cinquefoil (*Potentialla glandulosa*), and hydrophytic sedge and grass species such as Nebraska sedge (*Carex nebrascensis*), slender beak sedge (*Carex athrostachya*), hairgrass (*Deschampsia cespitosa*), Baltic rush (*Juncus balticus*), small-fruited bulrush (*Scirpus microcarpus*), and big-leaf sedge (Carex amplifolia).

4.1.1.1. SURVEY RESULTS

Montane riparian scrub habitat within the BSA is jurisdictional pursuant to Section 404 of the Clean Water Act. Within the BSA, this habitat is not designated as Critical Habitat by USFWS or National Marine Fisheries Service (NOAA Fisheries) for any federally listed species.

A formal Delineation of Waters of the U.S. was performed by HBA in 2011. Verified results included approximately 0.52 acres of jurisdictional wetland (classified as montane riparian scrub) within the BSA. Analysis of potential effects to the jurisdictional water of the U.S. is located in Section 4.1.1.3 below.

4.1.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources within the BSA the County conducted a sensitive biological resource species surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge that would avoid direct impacts to Dollar Creek.

4.1.1.3. PROJECT IMPACTS

The trail crossing over Dollar Creek will be constructed using a 100 foot bridge span in order to avoid impacts to the montane riparian scrub habitat. Permanent impacts to the montane riparian scrub habitat would not result as the bridge spans the total of riparian habitat and would not result in the removal of any riparian plant species. All riparian habitats have an exceptionally high value for many wildlife species. Such areas provide water, thermal cover, migration corridors, and diverse nesting and feeding opportunities. Temporary impacts to wetlands as a result of construction activities could affect associated wildlife including nesting and foraging birds and rearing fish species within the BSA. Temporary loss of riparian habitat (through trimming of riparian vegetation) could also negatively contribute to loss of stream channel shading (i.e. increased ambient water temperature) or increased erosion. This impact is considered less than significant as the bridge will provide additional shading to the creek and also allow for sufficient sunlight to maintain plant species below the bridge deck. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream

Environment Zone, the proposed project would not adversely impact montane riparian habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected.

4.1.1.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.1.1.5. CUMULATIVE IMPACTS

Overall, the proposed project would not permanently adversely impact montane riparian scrub habitat. The proposed project has been designed to avoid or minimize potential adverse effects on Dollar Creek and the associated riparian habitat. Because the proposed project, with designed mitigations will only have short-term, temporary impacts on montane riparian scrub habitat, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative impact.

4.1.2. Jurisdictional Water of the U.S.

The Clean Water Act (CWA) regulates the discharge of pollutants into waters of the U.S., including wetlands. Section 404 of the CWA regulates the discharge of dredged and fill material into wetlands and other waters of the U.S. The federal government defines "waters of the United States" in 33 Code of Federal Regulations (CFR) 328.3 as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands;

3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

    A. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

    B. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

C. Which are used or could be used for industrial purpose by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under the definition;

5. Tributaries of the above waters;

6. The territorial seas;

7. Wetlands adjacent to the above waters (other than waters that are themselves wetlands). Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the Environmental Protection Agency (EPA).

The term “wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Under normal circumstances, the definition of wetlands requires three wetland identification parameters be present: wetland hydrology, hydric soils, and hydrophytic vegetation. Typical examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a significant ecological nexus to a traditional navigable waterway.

“Other waters of the U.S.” refers to those hydric features that are regulated by the Act but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high water mark. The term “ordinary high water mark” refers to that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics

of the surrounding areas. Examples of other waters of the U.S. include rivers, creeks, ponds, and lakes.

On June 5, 2007 the EPA and the ACOE released guidance on the definitions of jurisdictional waters of the U.S. in response to *Rapanos v. United States* and *Carabell v. United States*. According to this guidance, the ACOE and the EPA will take jurisdiction over the following waters:

1. Traditional navigable waters, which are defined as all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. Wetlands adjacent to traditional navigable waters; including adjacent wetlands that do not have a continuous surface connection to traditional navigable waters;

3. Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months);

4. Wetlands adjacent to non-navigable tributaries as defined above; that have a continuous surface connection to such tributaries (e.g. they are not separated by uplands, a berm, dike, or similar feature).

The EPA and the ACOE decide jurisdiction over the following waters based on a fact-specific analysis to determine if there is a significant nexus, as defined below, to a traditional navigable water:

1. Non-navigable tributaries that are not relatively permanent;

2. Wetlands adjacent to non-navigable tributaries that are not relatively permanent;

3. Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The EPA and the ACOE generally do not assert jurisdiction over the following features:

1. Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow);

2. Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The EPA and the ACOE have defined the significant nexus standard as follows:

1. A significant nexus analysis assesses the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters;

2. Significant nexus includes consideration of hydrologic and ecologic factors including:

    A. Volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary,

    B. Proximity to the traditional navigable water,

    C. Size of the watershed,

    D. Average annual rainfall,

    E. Average annual winter snow pack,

    F. Potential of tributaries to carry pollutants and flood waters to traditional navigable waters,

    G. Provision of aquatic habitat that supports a traditional navigable water,

    H. Potential of wetlands to trap and filter pollutants or store flood waters, and

    I. Maintenance of water quality in traditional navigable waters.

4.1.2.1. SURVEY RESULTS

Riparian wetland within the BSA is jurisdictional pursuant to Section 404 of the Clean Water Act. A formal Delineation of Waters of the U.S. was performed by HBA in 2011. Verified results included approximately 0.52 acres of jurisdictional wetland within the BSA.

4.1.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

The trail crossing over Dollar Creek will be constructed using a 100 foot bridge span in order to avoid impacts to the wetlands and waters of the US. Using results of the wetland

delineation and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge to avoid direct impacts to Dollar Creek.

4.1.2.3. PROJECT IMPACTS

The trail crossing over Dollar Creek will be constructed using a 100 foot bridge span in order to avoid impacts to the montane riparian scrub habitat. Permanent impacts to the montane riparian scrub habitat would be avoided however temporary impacts may result to vegetation that will be trimmed and cut back during construction activities. All riparian habitats have an exceptionally high value for many wildlife species. Such areas provide water, thermal cover, migration corridors, and diverse nesting and feeding opportunities. Impacts to wetlands and riparian habitat could affect associated wildlife including nesting and foraging birds and rearing fish species within the BSA. Installation of the bridge span over dollar Creek will require the trimming of riparian vegetation along the banks and adjacent slopes. Indirect impacts noted above that can result in loss of moisture in the impact area through increased solar radiation thereby desiccating soils will likely be offset through the shading provided by the new bridge span. The majority of the riparian vegetation along the banks of Dollar Creek is located within 20’ of the creek bank. The 100 foot bridge span will average approximately 3’ (5’ maximum height) off the surface of the ground in these locations. This height would be sufficient for the continued support of riparian vegetation in this area by allowing in sunlight and sufficient moisture.

With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact montane riparian scrub habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected.

4.1.2.4. COMPENSATORY MITIGATION

No mitigation required.

4.1.2.5. CUMULATIVE IMPACTS

Overall, the proposed project would not permanently adversely impact jurisdictional waters of the U.S. The proposed project has been designed to avoid or minimize potential adverse effects on Dollar Creek and the associated jurisdictional riparian wetland habitat. Because the proposed project, with designed mitigations, will only have short-term, temporary impacts on jurisdictional waters of the U.S., and will not have adverse direct or indirect impacts, it would not contribute towards an adverse cumulative impact.

4.2. Special-Status Plant Species

Habitat in the BSA provides potential habitat for 7 special-status plant species (**Table 6**). Results from the HBA special-status plant survey on in 2011 indicate that no special-status plant species were present in the BSA, and the species listed in Table 6 below are not likely to be present within the BSA. The 2011 survey dates (July 27, August 26, and September 6) coincides with the blooming period for all the species in Table 6. Potential effects to these special status plant species are identified and discussed below.

Table 5: BSA Special Status Plant Species

Scientific Name Common Name	Status (CNPS and/or TRPA)	Specific Habitat Present or Absent	Species Present	Rationale
Plants (Including Mosses and Ferns)				
Botrychium ascendens upswept moonwort	2.3	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Botrychium crenulatum scalloped moonwort	2.2	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Botrychium minganense mingan moonwort	2.2	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Carex davyi Davy's sedge	1.B	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Carex lasiocarpa woolly-fruited sedge	2.3	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Carex mariposana *Mariposa sedge*	TRPA	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Carex praticola Northern meadow sedge	2.2	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Epilobium oreganum Oregon fireweed	2.3	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Glyceria grandis American managrass	1B.2	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Juncus luciensis Santa Lucia rush	1B.2	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Meesia uliginosa 1.1.1.1.1.1 Broad-nerved hump moss	2.2	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Scutellaria galericulata marsh skullcap	2.2	Suitable habitat along shoreline of Dollar Reservoir and on banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.

Table 5: BSA Special Status Plant Species

Scientific Name Common Name	Status (CNPS and/or TRPA)	Specific Habitat Present or Absent	Species Present	Rationale
Stuckenia filiformis slender-leaved pondweed	2.2	Suitable habitat adjacent to BSA within Dollar Reservoir.	Unlikely	Species not observed during rare plant surveys conducted in 2011.
Rhamnus alnifolia alder buckthorn	2.2	Suitable habitat along banks of Dollar Creek.	Unlikely	Species not observed during rare plant surveys conducted in 2011.

SOURCE: HBA 2012

Status Codes: TRPA = TRPA threshold species; California Native Plant Society (CNPS) 1B.1- Rare, threatened, or endangered in California and elsewhere, seriously endangered in California ; 1B.2 -Rare, threatened, or endangered in California and elsewhere, fairly endangered in California; 2.2 - Rare, threatened, or endangered in California, but more common elsewhere, and fairly endangered in California); 2.3 – Rare, threatened, or endangered in California, but more common elsewhere, and not very threatened in California.

4.2.1. Upswept moonwort (*Botrychium ascendens*)

Upswept moonwort is designated as a CNPS List 2.3 species.

4.2.1.1. SURVEY RESULTS

Because the members of this genus are difficult to distinguish, very uncommon and sporadic in distribution (Wagner and Wagner 1983), documentation of population numbers and distribution patterns are incomplete. Literature suggests species in the Botrychium complex share similar preferences in habitat, that is, habitats with wet or moist soils such as marshes, meadows, and along the edges of lakes and streams at higher elevations. They grow with moss, grasses, sedges, rushes and other mesic or hydric vegetation. The moonworts are sensitive to drought and may not appear in dry years; they are closely associated with mycorrhizal fungi at all life stages, so the important habitat requirements are probably maintaining shade, soil moisture, and organic matter, and avoiding disturbance such as defoliation or root/mycorrhizal disruption. Because the majority of these plants' life cycle is spent underground, and the plants may undergo periods of dormancy, these small perennial ferns are difficult to find. These species appear sensitive to activities such as grazing, trampling, logging and recreational activities such as OHV use.

Upswept moonwort is known in California from 19 recorded occurrences. These range throughout the Sierra Nevada and Cascade Range from Tulare County north to Modoc County. Occurrences are concentrated in Butte and Plumas counties (CDFG 2011). Habitat for upswept moonwort includes grassy fields, coniferous woods near streams, and meadows in California. This species is fertile in from July to August.

In the BSA, potentially suitable habitat for upswept moonwort is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. However, because the majority of this plant's life cycle is spent underground, one season of surveys for this species cannot be considered definitive. The nearest known population occurs in South Lake Tahoe, California approximately 20 mi south of the BSA.

4.2.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge and temporary construction access bridge that would minimize impacts to potential habitat for upswept moonwort. No additional avoidance and minimization efforts are necessary.

4.2.1.3. PROJECT IMPACTS

Upswept moonwort has 19 occurrences listed in the CNDDB, but the plant is not known from Placer County, and this species was not detected during special status plant species conducted in 2011, although as discussed one season of surveys for this species cannot be considered definitive. Determining the potential impacts to moonworts requires an understanding of the unique life cycle of these plants. For example, spores from moonworts are produced above ground where they filter into the soil and germinate underground. The majority of this plant's life cycle is then spent underground where reproduction occurs and offspring can remain for a number of years (Johnson-Grohl et al. 2002). Often the density of the below-ground reproductive plants exceeds the sporophytes above-ground population. This below ground population often acts a reservoir for above-ground plants that may be impacted from disturbance or other unfavorable environmental conditions. Because the plant spends a majority of its life underground, it is believed they are fairly resilient to above ground impacts and will usually recover following disturbance (Johnson-Grohl et al. 2002). Therefore, there will be no direct impacts to this species from implementation of the proposed project.

With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Botrychium* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the

surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected.

4.2.1.4. COMPENSATORY MITIGATION

No mitigation is required.

4.2.1.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect upswept moonwort. This species was not detected during special status plant species surveys conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project has been designed to incorporate impact avoidance and minimization measures, it will only have short-term, temporary impacts on habitat that could support upswept moonwort. As proposed, the project would not result in long-term adverse direct or indirect impacts, nor would it contribute towards an adverse cumulative effect to upswept moonwort.

4.2.2. Scalloped moonwort (*Botrychium crenulatum*)

Scalloped moonwort is designated as a CNPS List 2.2 species.

4.2.2.1. SURVEY RESULTS

See the general discussion of *Botrychium* biology in Section 4.2.1.1 above for details on the life history of moonworts. In California, scalloped moonwort is known from 39 recorded occurrences throughout the state, ranging from the Sierra Nevada Mountains through the Cascade Range in the north. It is known to occur in several Southern California counties**,** including Mono County in the Eastern Sierras, and Mendocino and Butte Counties in Northern California. In Nevada, this small perennial fern is known from six occurrences in Clark County and possibly several other counties although statewide surveys are considered incomplete (Morefield 2001). Habitat for this plant includes wet meadows, marshes, seeps, streambanks, and bog-fen habitat types (CNPS 2011).In the BSA, habitat for scalloped moonwort is found in the freshwater marsh wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. However, because the majority of this plant's life cycle is spent underground, one season of surveys for this species cannot be considered definitive. The nearest known population occurs on the banks of Ward Creek on the west shore of Lake Tahoe, California approximately 5 miles south of the BSA.

4.2.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge and temporary construction access bridge that would minimize impacts to habitat for scalloped moonwort. No additional avoidance and minimization efforts are necessary.

4.2.2.3. PROJECT IMPACTS

Scalloped moonwort has 39 occurrences listed in the CNDDB, but the plant is not known from Placer County, and this species was not detected during special status plant species conducted in 2011, although as discussed one season of surveys for this species cannot be considered definitive. Impacts to scalloped moonwort are the same as upswept moonwort. Please see Section 4.2.1.3 above for a discussion of impacts.

4.2.2.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.2.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect scalloped moonwort. This species was not detected during special status plant species surveys conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project has been designed to incorporate impact avoidance and minimization measures, it will only have short-term, temporary impacts on habitat that could support scalloped moonwort. As proposed, the project would not result in long-term adverse direct or indirect impacts, nor would it contribute towards an adverse cumulative effect to scalloped moonwort.

4.2.3. Mingan moonwort (*Botrychium minganense*)

Mingan moonwort is designated as a CNPS List 2.2 species.

4.2.3.1. SURVEY RESULTS

See the general discussion of *Botrychium* biology in Section 4.2.1.1 above for details on the life history of moonworts. In California, mingan moonwort is known from 28 recorded occurrences, mostly in the northern Sierra Nevada Mountains, but it has been recorded as far south as San Bernardino County. Occurrences are concentrated in Plumas, Butte, and Tehama counties. The occurrence and distribution of this species in Placer is

not known. Habitat for this plant includes streambanks, meadows, and other moist habitats (CDFG 2011).

In the BSA, habitat for mingan moonwort is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. However, because the majority of this plant's life cycle is spent underground, one season of surveys for this species cannot be considered definitive. The nearest known population occurs on the banks of Griff Creek in the northern Lake Tahoe Basin approximately 4 miles east-northeast of the BSA.

4.2.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge that would minimize impacts to habitat for mingan moonwort. No additional avoidance and minimization efforts are necessary.

4.2.3.3. PROJECT IMPACTS

Mingan moonwort has 28 occurrences listed in the CNDDB, but the plant is known to occur approximately 4 miles from the BSA. This species was not detected during special status plant species conducted in 2011, although as discussed one season of surveys for this species cannot definitively confirm the absence of the species within the BSA. Please refer to Section 4.2.1.3 above for a discussion of impacts.

4.2.3.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.3.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect mingan moonwort. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects to riparian and wetland habitat that could potentially support this species. Because the proposed project has been designed to incorporate impact avoidance and minimization measures, it will only have short-term, temporary impacts on habitat that could support mingan moonwort. As proposed, the project would not result in long-term adverse direct or indirect impacts, nor would it contribute towards an adverse cumulative effect to mingan moonwort.

4.2.4. Davy's sedge (*Carex davyi*)

Davy's sedge is designated as a CNPS List 1B.3 species.

4.2.4.1. SURVEY RESULTS

In California, Davy's sedge is known from 13 recorded occurrences throughout California, from Tuolumne County in the south to Sierra County in the north. Habitat for this plant includes subalpine coniferous forest and upper montane coniferous forest. (CDFG 2011). In the BSA, potentially suitable habitat for Davy's sedge is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. However, one season of surveys may not be adequate to identify certain members of the *Carex* genus within a given location, as it is difficult to distinguish species by vegetative characteristics alone, in the event that an individual plant has not produced an inflorescence that contains all anatomical parts necessary for identification using dichotomous key. Therefore, survey results are based on current conditions during the survey period. The nearest known population occurs in the Truckee River basin, approximately 3 miles west of the BSA.

4.2.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span-style bridge to minimize impacts to habitat for Davy's sedge. No additional avoidance and minimization efforts are necessary.

4.2.4.3. PROJECT IMPACTS

Davy's sedge was not detected during special status plant species conducted in 2011, however one survey period may not definitively confirm absence of this species. Therefore, no direct impacts to this species are expected to occur as a result of project implementation; this conclusion is based on identification of available *Carex* specimens during the survey period. However, the project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Carex* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.4.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.4.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect Davy's sedge. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project has been designed to avoid and minimize direct impacts to montane riparian habitat, the project will only have short-term, temporary impacts on habitat that has potential to support Davy's sedge. Furthermore, the project will not result in long-term adverse direct or indirect impacts, and it would not contribute towards an adverse cumulative effect to Davy's sedge populations.

4.2.5. Woolly-fruited sedge sedge (*Carex lasiocarpa*)

Wooly-fruited sedge is designated as a CNPS List 2.3 species.

4.2.5.1. SURVEY RESULTS

In California, wooly-fruited sedge is known from 15 recorded occurrences throughout California, from El Dorado County in the southern portion of its range to Shasta County in the north. Habitat for this plant includes sphagnum bogs and fens, freshwater marshes and swamps (CDFG 2011). In the BSA, habitat for wooly-fruited sedge is found in the freshwater marsh wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest known population occurs in a spring near Agatum Street in Tahoe Vista, approximately 6 miles northeast of the BSA.

4.2.5.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge that would minimize impacts to habitat for wooly-fruited sedge. No additional avoidance and minimization efforts are necessary.

4.2.5.3. PROJECT IMPACTS

Wooly-fruited sedge has 15 occurrences listed in the CNDDB. This species was not detected during special status plant species conducted in 2011. Therefore, there will be no direct impacts to this species from implementation of the proposed project. However,

the project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Carex lasiocarpa* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.5.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.5.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect wooly-fruited sedge. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. The proposed project, with avoidance and mitigation measures incorporated into its design, will only have short-term, temporary impacts on habitat that could support wooly-fruited sedge. The project is not expected to result in long-term adverse direct or indirect impacts, nor would it contribute towards an adverse cumulative effect to wooly-fruited sedge populations on a regional level.

4.2.6. Mariposa sedge (*Carex mariposana*)

Mariposa sedge is designated as a TRPA threshold species.

4.2.6.1. SURVEY RESULTS

Mariposa rush occurs in meadows, swales, riparian shores, and thickets; from 750–3600 m. It has been documented from the Outer North Coast Ranges, High North Coast Ranges, High Cascade Range, High Sierra Nevada, San Bernardino Mountains, and Washoe County, Nevada (Hickman 2011).

In the BSA, habitat for Mariposa sedge is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments, although one season of surveys may not be adequate to confirm the absence of this species, given the difficulty of distinguishing some members of this genus based on vegetative characteristics. The nearest documented specimen was collected in Tahoe Pines in 1943, which is located 8.5 miles southwest of the BSA (Jepson Flora Project 2012).

4.2.6.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span-style bridge to minimize impacts to habitat for Mariposa sedge. No additional avoidance and minimization efforts are necessary.

4.2.6.3. PROJECT IMPACTS

Mariposa sedge was not detected during special status plant species conducted in 2011; however due to the difficulty of distinguishing certain members of this genus from other more common species that are present, survey results are based on observable conditions during the survey period. Based on survey conclusions, no direct impacts to this species are expected to occur from implementation of the proposed project. However, the project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Carex mariposa* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.6.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.6.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect Mariposa sedge. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project, with avoidance measured incorporated into the design, will only have short-term, temporary impacts on habitat that could support Mariposa sedge, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to Mariposa sedge populations on a regional level.

4.2.7. Northern meadow sedge (*Carex praticola*)

Northern meadow sedge is designated as a CNPS 2.2 species.

4.2.7.1. SURVEY RESULTS

In California, Northern meadow sedge is known from 13 recorded occurrences throughout California, from Tuolumne County in the south to Del Norte County in the north. Habitat for this plant includes moist to wet meadows (CDFG 2011). In the BSA, habitat for Northern meadow sedge is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest known population occurs on Barker Pass, approximately 10 miles southwest of the BSA.

4.2.7.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge would minimize impacts to habitat for Northern meadow sedge. No additional avoidance and minimization efforts are necessary.

4.2.7.3. PROJECT IMPACTS

Northern meadow sedge has 13 occurrences listed in the CNDDB. This species was not detected during special status plant species conducted in 2011. Therefore, no direct impacts are expected to occur to this species from implementation of the proposed project. However, the project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Carex praticola* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.7.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.7.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect Northern meadow sedge. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the

proposed project, with designed mitigations, will only have short-term, temporary impacts on habitat that could support Northern meadow sedge, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to Northern meadow sedge populations.

4.2.8. Oregon fireweed (*Epilobium oreganum*)

4.2.8.1. SURVEY RESULTS

In California, Oregon fireweed is known from Del Norte County in the north to Tulare County to the south. Habitat for this plant includes bogs and fens, meadows, lower montane coniferous forest, upper montane coniferous forest. (CNPS 2011).

In the BSA, habitat for Oregon fireweed is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. According to the Consortium of Herbaria (2012) nearest accession record was collected in 1963 from on Echo Summit, approximately 40 miles south of the BSA. CNDDB does not have any documented occurrences of this species in Placer County or in neighboring El Dorado and Nevada Counties (CDFG 2011).

4.2.8.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge would minimize impacts to habitat for Oregon fireweed. No additional avoidance and minimization efforts are necessary.

4.2.8.3. PROJECT IMPACTS

Oregon fireweed was not detected during special status plant species conducted in 2011. Therefore, there will be no direct impacts to this species from implementation of the proposed project. However, the project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Epilobium* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.8.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.8.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect Oregon fireweed. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project, with mitigation incorporated into its design, will only have short-term, temporary impacts on habitat that could support Oregon fireweed, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to Oregon fireweed.

4.2.9. American mannagrass (*Glyceria grandis*)

American mannagrass is a CNPS List 2.3 species.

4.2.9.1. SURVEY RESULTS

In California, American mannagrass is known from six recorded occurrences throughout California, including Mono, Fresno, Mendocino, Placer, and Humboldt counties. Most occurrences are historical, dating to 1949 or earlier. Only one recent occurrence of this species has been recorded in California, a 2000 collection on the Walker River. Habitat for this plant includes wet meadows, ditches, streams, and ponds (CDFG 2011).

In the BSA, habitat for American mannagrass is found within Dollar Creek and in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest known population occurs on the Truckee River near Squaw Creek 5 miles west of the BSA.

4.2.9.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge would minimize impacts to habitat for American mannagrass. No additional avoidance and minimization efforts are necessary.

4.2.9.3. PROJECT IMPACTS

American mannagrass has six occurrences listed in the CNDDB and this species was not detected during special status plant species conducted in 2011.Therefore, there will be no direct impacts to this species from implementation of the proposed project. However, the

project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Glyceria grandis* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.9.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.9.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect American mannagrass. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project, with designed mitigations, will only have short-term, temporary impacts on habitat that could support American mannagrass, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to American mannagrass.

4.2.10. Santa Lucia rush (*Juncus luciensis*)

Santa Lucia rush is a CNPS List 1B.2 species.

4.2.10.1. SURVEY RESULTS

In California, Santa Lucia rush is known from 26 recorded occurrences throughout California, from San Diego County in the south to Modoc County in the north. Habitat for this plant includes vernal pools, ephemeral drainages, wet meadows, and stream banks (CDFG 2011).

In the BSA, habitat for Santa Lucia rush is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest known population occurs in the Martis Valley, approximately 6 miles north of the BSA.

4.2.10.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant

surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge would minimize impacts to habitat for Santa Lucia rush. No additional avoidance and minimization efforts are necessary.

4.2.10.3. PROJECT IMPACTS

Santa Lucia rush has 26 occurrences listed in the CNDDB. This species was not detected during special status plant species conducted in 2011. Therefore, there will be no direct impacts to this species from implementation of the proposed project. However, the project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Juncus luciensis* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.10.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.10.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect Santa Lucia rush. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project, with designed mitigations, will only have short-term, temporary impacts on habitat that could support Santa Lucia rush, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to Santa Lucia rush.

4.2.11. Broad-nerved hump moss (*Meesia uliginosa*)

Broad-nerved hump moss is designated as a CNPS List 2.2 species.

4.2.11.1. SURVEY RESULTS

The CNDDB documents 31 occurrences of broad-nerved hump moss, mostly in the northern Sierra Nevada Mountains and North Coast Range, but it has been recorded as far south as Riverside County. Occurrences are concentrated in Plumas, Nevada, and

Siskiyou counties. Habitat for this plant includes seeps, bogs and fens, often found on the edge of fens or raised above the fen on hummocks/shrub bases (CDFG 2011).

In the BSA, habitat for broad-nerved hump moss is found in the wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest known population occurs on the banks of Angora Creek in the southern Lake Tahoe Basin approximately 35 miles southwest of the BSA.

4.2.11.2. Avoidance and Minimization Efforts

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge that would minimize impacts to habitat for broad-nerved hump moss. No additional avoidance and minimization efforts are necessary.

4.2.11.3. Project Impacts

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Broad-nerved hump moss has 31 occurrences listed in the CNDDB, but the plant is known to occur approximately 35 miles from the BSA. This species was not detected during special status plant species conducted in 2011. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Meesia uliginosa* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.11.4. Compensatory Mitigation

No mitigation required.

4.2.11.5. Cumulative Effects

Overall, the proposed project would not adversely affect broad-nerved hump moss. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects to riparian and wetland habitat that could potentially support this species. Because the

proposed project has been designed to incorporate impact avoidance and minimization measures, it will only have short-term, temporary impacts on habitat that could support broad-nerved hump moss. As proposed, the project would not result in long-term adverse direct or indirect impacts, nor would it contribute towards an adverse cumulative effect to broad-nerved hump moss.

4.2.12. Alder buckthorn (*Rhamnus alnifolia*)

Alder buckthorn is a CNPS List 2.2 species.

4.2.12.1. Survey Results

In California, alder buckthorn is known from 16 recorded occurrences in Plumas, Sierra, Nevada and Placer counties. Habitat for this plant includes riparian scrub and woodland and other mesic sites within lower and upper montane coniferous forests (CDFG 2011).

In the BSA, habitat for alder buckthorn is found along the banks of Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest recorded population is located at the junction of Highway 89 and Squaw Valley Road, approximately 4.5 miles from the BSA.

4.2.12.2. Avoidance and Minimization Efforts

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge would minimize impacts to habitat for alder buckthorn. No additional avoidance and minimization efforts are necessary.

4.2.12.3. Project Impacts

Alder buckthorn has 16 occurrences listed in the CNDDB, including two from Placer County. This species was not detected during special status plant species conducted in 2011. Therefore, there will be no direct impacts to this species. However, the project would impact potential habitat for this species. The proposed trail construction and use would not permanently impact wetland habitat but would result in the trimming of riparian vegetation. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Rhamnus alnifolia* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.12.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.12.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect alder buckthorn. This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on riparian and wetland habitat that could potentially support this species. Because the proposed project, with designed mitigations, will only have short-term, temporary impacts on habitat that could support alder buckthorn, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to alder buckthorn.

4.2.13. Marsh Skullcap (*Scutellaria galericulata)*

Marsh skullcap is a CNPS List 2.2 species.

4.2.13.1. SURVEY RESULTS

Marsh skullcap occurs in wet areas, meadows, on stream banks and coniferous forest between approximately 3,200 and 6,900 feet above msl (Hickman 1993). Suitable habitat for this species includes meadows, seeps, marshes and swamps. This species blooms from June to September (CNPS 2001). In California, marsh skullcap has been documented in 31 locations by CNDDB (CDFG 2011), from San Joaquin County to the south to Modoc and Siskiyou Counties in the northern portion of its California distribution.

In the BSA, habitat for marsh skullcap is found in montane riparian wetlands adjacent to Dollar Creek. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest recorded population is from a 1922 collection in the Squaw Creek drainage, approximately 5 miles west of the BSA.

4.2.13.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge would minimize impacts to habitat for marsh skullcap. No additional avoidance and minimization efforts are necessary.

4.2.13.3. PROJECT IMPACTS

This species was not detected during special status plant species conducted in 2011. Therefore, there are no direct or indirect impacts to marsh skullcap from implementation

of the proposed project. However, the project would impact potential habitat for this species. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact *Scutellaria galericulata* habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.2.13.4. COMPENSATORY MITIGATION

No mitigation required.

4.2.13.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect marsh skullcap. This species was not detected during special status plant species conducted in 2011. Potential habitat for this species is abundant in the BSA as well as regionally. Because the proposed project will not have adverse direct or indirect effects, it would not contribute towards an adverse cumulative effect to marsh skullcap populations.

4.2.14. Slender-leaved Pondweed (*Stuckenia filiformis*)

Slender-leaved pondweed is a CNPS List 2.2 species.

4.2.14.1. SURVEY RESULTS

This submerged aquatic plant occurs in shallow, clear water of lakes, drainage channels, marshes and swamps (CDFG 2011). This species has been documented by CNDDB from 21 widely varying locations in California, from coastal wetlands at 50 ft msl elevation to montane marshes located at 7,580 ft msl elevation. In the BSA, habitat for slender-leaved pondweed is found adjacent to the BSA within Dollar Reservoir. Plant surveys conducted by HBA in 2011 did not identify this species within or adjacent to trail alignments. The nearest recorded population is from 1931 in the vicinity of Crystal Bay, approximately 9 miles northeast of the BSA.

4.2.14.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands, stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, Placer County conducted rare plant surveys as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project

engineer designed a permanent span style bridge would minimize impacts to habitat for slender-leaved pondweed. No additional avoidance and minimization efforts are necessary.

4.2.14.3. PROJECT IMPACTS

This species was not detected during special status plant species conducted within the BSA and its direct vicinity in 2011. Furthermore, no submerged aquatic habitat would be impacted by the project, which has been designed to avoid or minimize potential adverse effects on adjacent riparian and wetland habitat. Therefore, there are no direct or indirect impacts to slender-leaved pondweed from implementation of the proposed project.

4.2.14.4. COMPENSATORY MITIGATION

There is no compensatory mitigation necessary.

4.2.14.5. CUMULATIVE EFFECTS

This species was not detected during special status plant species conducted in 2011. The proposed project has been designed to avoid or minimize potential adverse effects on adjacent riparian and wetland habitat. Because the species was not found in Dollar Reservoir adjacent to the BSA, the proposed project, would not contribute towards an adverse cumulative effect to slender-leaved pondweed.

4.3. Special-Status Animal Species Occurrences

Potential habitat for five special-status animal species was found within the BSA. These include one fish, one reptile, one bird, one mammal and one invertebrate species identified below in **Table 6**. Potential effects to these special-status species are identified and discussed below.

Table 6: BSA Special-Status Animal Species

Scientific Name Common Name	Status	Specific Habitat Present or Absent	Species Present	Rationale
Fish				
Oncorhynchus clarkia henshawi Lahontan cutthroat trout	FT	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temps & conditions. Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	Unlikely	Species likely extirpated from Dollar Creek. Presence of non-native trout species limits suitability of habitat. No spawning habitat within BSA.

Table 6: BSA Special-Status Animal Species

Scientific Name Common Name	Status	Specific Habitat Present or Absent	Species Present	Rationale
Amphibians				
Rana sierrae Sierra Nevada yellow-legged frog	FC/SC/ CSC	Streams, lakes, and ponds in montane riparian habitats. Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	Unlikely	Unlikely due to limited suitable habitat and presence of salmonid predators.
Birds				
Accipiter gentilis Northern goshawk	CSC	Dense stands of mature Jeffrey pine are present onsite, nest sties often near water.	Potentially	Species not recorded during protocol level surveys.
Dendroica petechial Yellow warbler	CSC	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	Potentially	Species not recorded during surveys within the project area.
Pandion haliaetus Osprey	CSC/TRPA	Suitable large nest trees adjacent to water present within project area	Potentially	Species not recorded during surveys within the project area.
Strix occidentalis occidentalis California spotted owl	CSC	Medium to large trees adjacent to water present within in project area.	Potentially	Species not recorded during protocol level surveys.
Mammals				
Aplodontia rufa Mountain beaver	CSC	Dense growth of small deciduous trees and shrubs, wet soil and abundance of forbs under dense understory. Suitable habitat present along Dollar Creek	Potentially	Evidence of burrows or hay mounds not observed during surveys of the BSA. Suitable habitat present onsite.
Martes americana American marten	CSC	Dense multi-storied coniferous forest high with high percentage of downed logs in proximity to riparian corridors.	Potentially	Suitable habitat occurs within the BSA.

SOURCE: HBA, ESA, 2011

Status Codes: Federal Threatened (FT); Federal Candidate (FC); State Endangered (SE); California Species of Special Concern (CSC).

4.3.1. Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi)*

Lahontan cutthroat trout (LCT) is listed as threatened under the FESA. LCT was listed by USFWS as an endangered species in 1970. The listing was reclassified to the less restrictive threatened status in 1975 to facilitate recovery and management efforts and authorize regulated angling. In 1995, the USFWS released its recovery plan for LCT, encompassing six river basins within LCT historic range, including the Truckee River basin (USFWS 1995). The USFWS conducted a status review of LCT in 2009 to evaluate whether or not the species' status has changed (USFWS 2009).Currently, no Critical Habitat has been designated for LCT.

4.3.1.1. SURVEY RESULTS

The LCT is an inland subspecies of cutthroat trout endemic to the physiographic Lahontan basin of northern Nevada, eastern California, and southern Oregon. In California, the subspecies historically occurred in the streams and lakes of the Lahontan system, on the east side of the Sierra Nevada (Moyle 2002), including the Truckee, Carson, Walker, Susan, Humboldt, Quinn, Summit Lake/Black Rock Desert, and Coyote Lake watersheds (USFWS 1995). The current distribution is a fraction of the historic distribution. Lahontan cutthroat trout, like other trout species, are found in a wide variety of cold-water habitats including large terminal alkaline lakes, alpine lakes, slow meandering rivers, mountain rivers, and small headwater tributary streams (USFWS 1995).

Using historical fisheries data and reports, published historical accounts, professional and personal knowledge of the species, known anecdotal information, known habitat restrictions (e.g., temperature), and known natural barriers, the USFWS mapped historically occupied habitat (USFWS 2009). Based on their criteria, they classified 11,046 km (6,864 mi) of stream habitat as potential historical LCT habitat as well as an additional 127,274 hectares (ha) (314,502 acres) of lakes were known or had the potential of being occupied by LCT. In northern California and western Nevada, LCT were thought to occupy approximately 1,056 km (656 mi) of the Truckee River watershed, 645 km (401 mi) of the Carson River watershed, and 917 km (570 mi) of the Walker River watershed (USFWS 2009). LCT historically occurred in Tahoe, Cascade, Fallen Leaf, Upper Twin, Lower Twin, Pyramid, Winnemucca, Summit, Donner, Walker, and Independence Lakes (Moyle 2002, Gerstung 1988). Dollar Creek, which traverses the BSA, was thought to historically support LCT (USFWS 2009). At the turn of the century, Lake Tahoe and Pyramid Lake supported commercial and sport fisheries for LCT. LCT has been extirpated from most of the western portion of its range in the Truckee, Carson, and Walker River Basins, and from much of its historic range in the Humboldt Basin (Gerstung 1988, Coffin 1988).

LCT currently occupy approximately 944.8 km (587.7 mi), or 8.6 percent of streams in 16 different hydrologic units within their historical range. LCT occupy an additional 84.8 km (52.7 mi) of habitat in 11 hydrologic units outside their historical range. The severe decline in range and numbers of LCT is attributed to a number of factors including hybridization and competition with introduced trout species; alteration of stream channels and morphology; loss of spawning habitat due to pollution and sediment inputs from logging, mining, grazing and urbanization; migration blockage due to dams; reduction of lake levels and concentrated chemical components in natural lakes; loss of habitat due to

channelization; de-watering due to irrigation and urban demands; and overfishing (Gerstung 1986 & 1988, Coffin 1988).

Generally, LCT occur in cool flowing water with available cover of well-vegetated and stable stream banks, in areas where there are stream velocity breaks, and in relatively silt free, rocky riffle-run areas. Optimal LCT habitat is characterized by 1:1 pool-riffle ratios; well vegetated stable stream banks; more than 25% cover; and relatively silt free rocky substrates (Hickman & Raleigh 1982). LCT inhabit areas with overhanging banks, vegetation, or woody debris. In-stream cover (brush, aquatic vegetation, and rocks) is particularly important for juveniles (Sigler & Sigler 1987, Gerstung 1988). LCT are unique since they can tolerate much higher alkalinities than other trout species (Koch et al. 1979).

LCT evolved in the absence of other trout species and do not compete well for food and habitat. In stream environments within the western portion of the Lahontan drainage, LCT have seldom been able to co-exist with non-native trout for longer than a decade. LCT, particularly those within the western portion of the Lahontan Basin, also hybridize with rainbow trout (Behnke 1979).

LCT historically occurred in and around the Basin, including Tahoe, Cascade, Fallen Leaf, Upper Twin, Lower Twin, Pyramid, Winnemucca, Summit, Donner, Walker, and Independence Lakes. However, it is not known with certainty every stream and lake that were historically occupied by LCT (USFWS 2009).

Presently there are two reintroduced populations of LCT in the Tahoe Basin: Upper Truckee River/Shower's Lake and Fallen Leaf Lake. These populations were reintroduced for recreation. These are not considered recovery populations by USFWS and are not subject to protection under the ESA. LCT have also been reintroduced into the Truckee River (below Lake Tahoe) and into habitats outside of its native range, primarily for recreation angling purposes. According to the USFWS (2009), there are no extant fluvial populations of LCT native to the Truckee River watershed.

Although LCT historically occurred in Lake Tahoe and potentially occurred in Dollar Creek, the USFWS (2009) found that Dollar Creek is likely not presently occupied. As discussed above, LCT do not compete well for food and habitat with other trout species. Non-native introduced rainbow trout and brook trout were noted during biological surveys in October 2011. The presence on non-native trout species within Dollar Creek limits the suitability of this habitat for LCT. Spawning habitat within the BSA is limited

with channel substrate characterized by sandy substrate supporting cascade, run, and small pool sequences (i.e. no riffles)

4.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Based on sensitive resources (i.e. wetlands and stream channels) within the BSA and the proposed Dollar Creek bridge crossing location, the County conducted a sensitive biological resource constraints analysis which included several species surveys and reports as well as a formal wetland delineation of the BSA. Using results of these surveys and jurisdictional limits of verified wetlands and stream channels, the project engineer designed a permanent span style bridge and temporary construction access bridge that would avoid direct impacts to Dollar Creek or adjacent wetlands.

The following measures will be implemented to avoid impacts to LCT as well as associated habitats (riparian, wetlands):

- Preparation of a SWPPP is required to address construction related water quality impacts. The SWPPP shall be prepared for the site in accordance with NPDES requirements. The requirements set forth within the SWPPP shall be implemented throughout the entire construction process.

- All work within the 100 year flood plain and jurisdictional wetlands shall be restricted to May 1st to October 15th in order to avoid water quality impacts and disturbance to riparian habitat adjacent with Dollar Creek. Restricting work to this timeframe shall limit work to the driest period of the year, thereby avoiding excessive runoff and erosion. Should work within the 100 year flood plain or jurisdictional wetlands be required outside this time frame, it shall be subject to TRPA, County, and LRWQCB approval.

4.3.1.3. PROJECT IMPACTS

Based on recent USFWS data as well as habitat characteristics in the BSA, LCT is not likely to occur in the vicinity. In addition, avoidance of the Dollar Creek stream channel and associated substrate is proposed, which will avoid potential direct impacts to LCT.

Construction and placement of the proposed trail within the vicinity of Dollar Creek may result in a discharge of sediments downstream of these sites. Increased sedimentation may cause reduced survival of LCT eggs or alevins, reduce primary and secondary creek productivity, interfere with feedings, and cause behavioral avoidance to LCT downstream of the discharge area. However, with implementation of BMPs to prevent erosion and

installation of the bridge span over Dollar Creek, indirect water quality effects will be avoided.

With these avoidance measures the proposed project may affect but is not likely to adversely affect the federally threatened LCT.

4.3.1.4. COMPENSATORY MITIGATION

With the implementation of the Avoidance and Minimization measures stated above, the project is not likely to adversely affect LCT. Therefore, no compensatory mitigation is required.

4.3.1.5. CUMULATIVE EFFECTS

Overall, the proposed project would not adversely affect LCT habitat. The proposed project has been designed to avoid or minimize potential adverse effects on Dollar Creek and the associated riparian habitat. In addition, the actions from the USFWS Recovery Plan (USFWS 1995) will continue to be implemented throughout the region to the benefit of the LCT. Because the proposed project, with designed mitigations, will only have short-term, temporary impacts on habitat that could potentially support LCT, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to the LCT.

4.3.1.6. INTERRELATED AND INTERDEPENDENT EFFECTS

This project is part of the larger North Tahoe Bike Trail that will link with other trails in the area, allowing users to travel from Sugar Pine Point State Park, east to Squaw Valley, and north to Kings Beach. The North Tahoe Bike Trail is part of the TRPA and Tahoe Metropolitan Planning Organization's Lake Tahoe Region Bicycle and Pedestrian Plan, which presents a guide for planning, constructing, and maintaining a regional bicycle and pedestrian network. The Bicycle and Pedestrian Plan is part of the TRPA Regional Plan. Because regional development is guided by the requirements of the TRPA, Lahontan Region Water Quality Control Plan, as well as the USFWS Recovery Plan for the LCT, it is unlikely that the proposed project would have a significant, interrelated or interdependent effect to LCT in the region.

4.3.2. Sierra Nevada yellow-legged frog (*Rana sierrae)*

The Sierra Nevada yellow-legged frog has recently been recognized as a separate species from the mountain yellow-legged frog (*Rana muscosa*) (now the southern mountain yellow-legged frog) under whose name it was formerly known. The Sierra Nevada yellow-legged frog is designated as a candidate species for listing as threatened or endangered under the FESA by USFWS.

4.3.2.1. SURVEY RESULTS

The Sierra Nevada yellow-legged frog (SNYLF) is a member of the mountain yellow-legged frog complex which is comprised of two species: southern mountain yellow-legged frog and Sierra Nevada yellow-legged frog. Both species are highly aquatic and are always found within a meter or two from the edge of water. Historically, SNYLF once occurred in California and Nevada but is now extinct in the state of Nevada. It now ranges from the Diamond Mountains north-east of the Sierra Nevada in Plumas County, California, south through the Sierra Nevada to Inyo County. In the extreme northwest region of the Sierra Nevada, several populations occur just north of the Feather River, and to the east there was a population on Mt. Rose, but it is now extinct (AmphibiaWeb 2011).

Sierra Nevada yellow-legged frog historically inhabited ponds, tarns, lakes, and streams from 1,370 to 3,650 m (4,500 to 12,000 ft) (Stebbins 1985) and was once the most common amphibian in high elevation aquatic ecosystems of the Sierra Nevada (Bradford et. al. 1998). SNYLF was abundant at many sites into the early 1960s, but large groups of populations in the northern Sierra Nevada and local populations elsewhere have since become extinct and have disappeared from 70-90% of its historic range in the bioregion (Jennings 1996).

The SNYLF is strongly associated with montane riparian habitats in lodgepole pine, yellow pine, sugar pine, white fir, whitebark pine, and wet meadow vegetation types (Zeiner et al. 1988). Typically, SNYLF prefers well illuminated, sloping banks of meadow streams, riverbanks, isolated pools, and lake borders with vegetation that is continuous to the water's edge. Waters that do not freeze to the bottom are required. In high elevations, breeding occurs between May and August as soon as the meadows and lakes are free of snow and ice. Sierra Nevada yellow-legged frogs usually lay their eggs in clusters submerged along stream banks or on emergent vegetation. Tadpoles and adults of this species overwinter in deep pools with undercut banks that provide cover. Adults are highly aquatic and are typically associated with near shore areas for reproduction, cover, foraging, and over-wintering. It is believed that adult frogs use the deepest sections of lakes for overwintering (Bradford et al. 1998).

The decline of SNYLF in the Sierra Nevada has largely been attributed to introduced predators (salmonid fishes) and disease during the last century (Bradford et al. 1993, Knapp 1996, Amphibia Web 2011). As populations are lost, remaining populations have become more isolated, which can indirectly result in extinctions of additional populations and reduce opportunities for recolonization of these sites (Bradford et al. 1993). Other

potential causes of population declines include habitat degradation and loss, grazing, and other environmental problems such as increased ultraviolet radiation, pesticides, viruses, and acid rain.

Within the BSA, suitable habitat for the SNYLF is limited. The stream gradient within Dollar Creek at the proposed crossing/construction area is moderate and characterized by cascade, run, and pool complexes, and there is minimal stream bank sun exposure due to the dogwood and alder sub-canopy cover as well as canopy cover from the adjacent mixed conifer forest. Within the BSA, Dollar Creek is occupied by introduced salmonid fish species that predate on the SNYLF.

4.3.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

The permanent span style bridge would avoid direct impacts to Dollar Creek. Preparation of a SWPPP will substantially decrease construction-related erosion and the potential for discharge of sediments into Dollar Creek. All work within the 100-year flood plain shall be restricted to May 1st to October 15th, and proposed project construction activities shall avoid contact within the ordinary high water mark (i.e. jurisdictional limits) of Dollar Creek.

4.3.2.3. PROJECT IMPACTS

Based on existing characteristics in the BSA, and that suitable habitat is very limited, the Sierra Nevada yellow-legged frog is not likely to occur in the BSA, although the species could utilize Dollar Creek Reservoir just upstream from the proposed bridge crossing. Avoidance of the Dollar Creek stream channel and associated substrate would avoid potential direct impacts to SNYLF.

Construction and placement of the proposed trail within the vicinity of Dollar Creek may result in a discharge of sediments downstream of these sites. However, with implementation of BMPs to prevent erosion and installation of the bridge span over Dollar Creek, indirect water quality effects will be avoided.

With these avoidance measures and associated mitigation, impacts to the federal candidate Sierra Nevada yellow-legged frog are not likely.

4.3.2.4. COMPENSATORY MITITGATION

With the implementation of the Avoidance and Minimization measures stated above, the project is not likely to adversely affect the Sierra Nevada yellow-legged frog. Therefore, no compensatory mitigation is required.

4.3.2.5. CUMMULATIVE EFFECTS

Overall, the proposed project would not adversely affect the Sierra Nevada yellow-legged frog. The proposed project has been designed to avoid or minimize potential adverse effects on Dollar Creek and the associated riparian habitat. Because the proposed project will not have adverse direct and indirect effects, it would not contribute towards an adverse cumulative effect on the Sierra Nevada yellow-legged frog.

4.3.2.6. INTERRELATED AND INTERDEPENDANT EFFECTS

This project is part of the larger North Tahoe Bike Trail that will link with other trails in the area, allowing users to travel from Sugar Pine Point State Park, east to Squaw Valley, and north to Kings Beach. The North Tahoe Bike Trail is part of the TRPA and Tahoe Metropolitan Planning Organization's Lake Tahoe Region Bicycle and Pedestrian Plan, which presents a guide for planning, constructing, and maintaining a regional bicycle and pedestrian network. The Bicycle and Pedestrian Plan is part of the TRPA Regional Plan. Because regional development is guided by the requirements of the TRPA and the Lahontan Region Water Quality Control Plan, it is unlikely that the proposed project would have a significant, interrelated or interdependent effect to SNYLF in the region.

4.3.3. Yellow warbler (*Dendroica petechia)*

Yellow warbler is currently considered a Bird Species of Special Concern (breeding) by CDFG.

4.3.3.1. SURVEY RESULTS

Yellow warblers currently occupy much of their former breeding range, except in the Central Valley, where they are close to extirpation (CDFG 2008). Yellow warblers breed widely in the Cascade Range and Sierra Nevada in both riparian habitat and chaparral shrub fields. This species occupies riparian vegetation in close proximity to water along streams and in wet meadows, and are found in willows and cottonwoods (*Populus spp*.). The Yellow warbler appears to adapt its foraging to variation in local vegetation structure, and its' diet includes ants, bees, wasps, caterpillars, beetles, true bugs, flies, and spiders (CDFG 2008). Within the BSA yellow warbler nesting and foraging habitat is present within the montane riparian corridor along Dollar Creek.

4.3.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

The permanent span style bridge would avoid direct impacts to Dollar Creek. Proposed trail construction and use would not permanently impact wetland habitat. All work within the 100-year flood plain and jurisdictional wetlands shall be restricted to May1st to October15th. Additional mitigation is necessary to protect potential yellow warbler, or

other migratory bird, nesting sites within the BSA as future nesting may occur before construction activities commence:

- Pre-construction surveys for tree-nesting raptors and migratory songbirds shall be conducted within 30 days prior to any construction that will occur between March 15 and August 31 of any given year. Preconstruction surveys shall be conducted by a qualified biologist. All suitable nesting habitat for tree nesting raptors and migratory songbirds shall be surveyed within 250feet of the proposed project impact area. If nests are encountered, the biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. In this case, the nest(s) shall be monitored by a qualified biologist during construction. If, in the professional opinion of the monitor, the project would impact the nest, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the project receives approval to continue from CDFG.

4.3.3.3. PROJECT IMPACTS

Under the proposed project, direct and indirect effects to yellow warblers include displacement from an increase in recreation use in the area and displacement during project construction. For example, warblers could be flushed from their perch or nest sites from noise disturbance associated with project construction. Disruptions to breeding could lead to mortality of eggs and/or juveniles. If disturbance levels are consistently high, yellow warblers may permanently avoid these areas. Noise from construction crews could disrupt foraging and/ or nesting behavior. However, implementation of the mitigation measure required in Section 4.3.3.2 above would minimize direct impacts to nesting yellow warblers.

The proposed project would impact potential habitat for this species, which is a potential indirect impact. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact yellow warbler habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected.

With these avoidance measures and associated mitigation, the proposed project may affect but is not likely to adversely affect yellow warbler.

4.3.3.4. COMPENSATORY MITIGATION

Mitigation measures outlined in Section 4.3.3.2 above would be required for avoidance of nesting yellow warbler individuals.

4.3.3.5. CUMMULATIVE EFFECTS

With incorporation of mitigation measures the proposed project would not adversely effect the yellow warbler and associated breeding habitat. The proposed project has been designed to avoid or minimize potential adverse effects on Dollar Creek and the associated riparian habitat. Because the proposed project, will only have short-term, temporary impacts on habitat that could support yellow warbler, and will not have long-term adverse direct or indirect impacts, it would not contribute towards an adverse cumulative effect to the yellow warbler and other sensitive breeding bird species and populations.

4.3.4. Northern goshawk (*Accipiter gentilis)*

Northern goshawk is currently considered a Bird Species of Special Concern (breeding) by CDFG and a TRPA Special Interest Species.

4.3.4.1. SURVEY RESULTS

Northern goshawks (*Accipiter gentilis*) inhabit a broad range of forested communities, including mixed conifer, true fir, montane riparian, Jeffrey pine, ponderosa pine, and lodgepole pine forest. In California, this species occurs in the Sierra Nevada, Klamath, Cascade, Inyo-White, Siskiyou, and Warner Mountains, and the North Coast Ranges (Zeiner et al. 1990, USFS 2000). Goshawks may also possibly inhabit suitable habitats in the Transverse Ranges and other mountainous areas in southern California (Zeiner et al. 1990, USFS 2000).

A study conducted in the Lake Tahoe region of the Sierra Nevada found that nest-site areas used by northern goshawks were characterized by high canopy closure, high densities of trees in the >60-100 centimeter (cm) and >100 cm diameter-at-breast-height (dbh) classes, low densities of 5-30 cm dbh trees, and low shrub/sapling and ground cover (Keane 1999). Other site factors, including northerly aspects, proximity to water or meadows, forest openings, and low slope angles, have also been associated with nest sites in numerous studies, although these factors vary widely (USFS 2000). Snags and logs are considered important components of northern goshawk foraging areas, as they provide habitat for prey populations (USDA 1988).

A model of goshawk nest stands developed by Fowler (1988) for application on the west slope of the Sierra Nevada, with consideration for east side habitat conditions, indicates that canopy closure of 60 to 100 % from dominant and co-dominant trees is characteristic of goshawk nest stands. In Fowler's model, slopes of 0 to 25% are identified as optimal. Slopes of 26 to 50 % are considered suitable, while slopes greater than 50% are unsuitable. Aspect is also identified as an important component in nest stand selection, with a north to east aspect considered optimal. North to northwest and east to southeast slopes are considered suitable, while other aspects are identified as marginal (Fowler 1988).

Nesting behavior, including courtship and nest initiation, begins mid-February to early March. The average incubation period is approximately 33 days (USFS 2000). The nestling period typically extends from early June through early July, with most young fledged by mid-July. The post-fledging dependency period extends until mid/late August.

Foraging areas around nest sites generally encompass approximately 2,500 acres of forested habitat (Austin 1991, Hargis et al. 1991). Northern goshawks are known to prey on over 50 species of birds and mammals throughout their western range (Graham et al. 1994). In the Lake Tahoe region primary prey species include Douglas squirrel (*Tamia sciurus douglasii*), Steller's jay (*Cyanocitta stelleri*), northern flicker (*Colaptes auratus*), and ground squirrel (*Spermophilus* spp.) (Keane 1999). Other prey species include American robin (*Turdus migratorius*), blue grouse (*Dendragapus obscurus*), other woodpeckers, and other squirrels.

Although no northern goshawks were detected during 2011 surveys, suitable nesting and foraging habitat is present in the Project area. The closest known active Protected Activity Centers are located 1 mile to the northeast in the Watson Creek drainage.

4.3.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

The proposed trail is utilizing existing disturbance and trail alignments to the greatest extent possible to thereby decrease the removal of forested habitat that is suitable for northern goshawk foraging and nesting. Northern goshawk may occupy habitats within the BSA prior to commencement of construction activities. The potential exists for northern goshawk to nest within the BSA before commencement of construction. In order to determine if nesting northern goshawk are present, the BSA shall be surveyed again before construction is allowed to start. Additional mitigation is necessary to protect potential northern goshawk nesting sites within the BSA as future nesting may occur before construction activities commence:

- Pre-construction surveys for northern goshawk shall be conducted in the spring prior to commencement of construction activities. Preconstruction surveys shall be conducted by a qualified biologist and follow USFS Protocol. All suitable nesting habitat for northern goshawk shall be surveyed within 0.5miles of the proposed project impact area. If nests are encountered, the biologist shall determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the breeding effort. TRPA biologists must be consulted in order to determine if construction activities will be able to be initiated. In this case, the nest(s) shall be monitored by a qualified biologist during construction. If, in the professional opinion of the monitor, the project would impact the nest, the biologist shall immediately inform the construction manager. The construction manager shall stop construction activities within the buffer until either the nest is no longer active or the project receives approval to continue from TRPA and CDFG.

4.3.4.3. PROJECT IMPACTS

There are no known occurrences of northern goshawk within the BSA, and habitat for northern goshawk is considered marginal within the BSA. Within the BSA northern goshawk was not identified during protocol surveys. The proposed project will result in a loss of 3.16 acres of suitable habitat for northern goshawk. Based on the mitigation measures noted in Section 4.3.4.2. and on high human use of the area and relatively low quality habitat and the lack of historical occurrences, northern goshawk are not expected to be present in the BSA. Therefore, it is expected that the proposed project will not impact northern goshawk.

4.3.4.4. COMPENSATORY MITIGATION

With the implementation of the Avoidance and Minimization measures outlined in 4.3.4.2 stated above, the project is not likely to impact northern goshawk. Therefore, no compensatory mitigation is required.

4.3.4.5. CUMMULATIVE EFFECTS

Overall, the proposed project would not adversely impact the northern goshawk although it would result in the loss of 3.16 acres of suitable habitat. This loss of suitable habitat together with other proposed projects in the area would result in an overall cumulative loss of habitat for the northern goshawk. However, due to the abundance of available habitat in the area, the loss of 3.16 acres would not contribute towards an adverse cumulative effect.

4.3.5. Osprey (*Pandion haliaetus)*

Osprey are currently considered a Bird Species of Special Concern by CDFG and a TRPA Special Interest Species.

4.3.5.1. SURVEY RESULTS

Osprey were not observed in the BSA during northern goshawk surveys or other surveys for migratory birds and wildlife in 2011. Osprey (*Pandion haliaetus*) are found in a variety of habitats associated with large rivers, lakes, and coastlines. In the Sierra Nevada, the osprey is a summer resident only. Nesting sites include large coniferous and deciduous trees, cliffs, and poletops located near or over water. The species feeds primarily on fish, which it captures by hovering over the water and plunging feet-first after its prey. Other prey types include rodents, birds, small vertebrates, and crustaceans. Limited suitable nesting habitat occurs within Jeffrey pine habitat in the BSA. An activeosprey nest is located approximately 0.3 miles northwest from the proposed trail at the northern terminus of Country Club Drive.

4.3.5.2. AVOIDANCE AND MINIMIZATION EFFORTS

The proposed trail alignment utilizes existing dirt roadways at the southern end of the project (in the vicinity of the existing nest). Utilizing existing dirt roadways minimizes the removal of Jeffrey pine habitat and decreases grading required in close proximity to the existing nest. This minimizes impacts osprey habitat within the BSA. However, the following mitigation measure would further ensure no adverse effect to osprey:

- a qualified biologist shall conduct a preconstruction survey for active osprey nesting close proximity the work area no more than two weeks prior to construction. Should breeding osprey be discovered, TRPA and CDFG shall be notified to develop appropriate mitigation measures to limit impacts to the nest and roosting individuals, which may include creation of a buffer zone to protect the nest from construction activities.

4.3.5.3. PROJECT IMPACTS

The BSA provides nesting and roosting habitat for osprey in sierran mixed conifer habitat adjacent to Dollar Reservoir and in the surrounding area. Construction grading and tree removal could adversely impact breeding or roosting activities of osprey. However, mitigation identified in Section 4.3.5.2 above would minimize direct adverse effects to the osprey.

The proposed project would impact potential habitat for this species, which is a potential indirect impact. Tree removal and grading would permanently remove approximately

3.16 acres of sierran mixed conifer habitat in the BSA (1.2% of the total sierran mixed conifer habitat within the BSA). The reduction in sierran mixed conifer habitat may limit osprey roosting activity in the BSA but would not impact foraging activities as osprey forage over open water in Lake Tahoe. Vegetation and tree removal would be limited to approximately 14 feet in width and the trail utilizes existing dirt roads to the greatest extent possible. This minimizes impacts to osprey nesting and roosting habitat within the sierran mixed conifer habitat in the BSA. In addition, this species roosts and nests in large, mature trees. Trees larger than 30" dbh are protected in accordance with TRPA temporary Code Section 61.1.4, thereby further reducing the likelihood that trail construction and use would affect individuals. Lastly, because sierran mixed conifer habitat is regionally abundant; it is unlikely that the loss of 3.16 acres of habitat would result in reduced viability or population size for this species.

4.3.5.4. COMPENSATORY MITIGATION

Due to regional abundance of sierran mixed conifer habitat, compensatory mitigation is not required to reduce potential adverse indirect effects to this species. Mitigation identified in Section 4.3.5.2 above would minimize direct adverse effects to osprey.

4.3.5.5. CUMMULATIVE EFFECTS

With incorporation of mitigation measures the proposed project would not adversely affect osprey within the BSA, and because the proposed project will not have adverse direct and indirect effects, it would not contribute towards an adverse cumulative effect.

4.3.6. California spotted owl (*Strix occidentalis occidentalis)*

The California spotted owl is currently considered a Bird Species of Special Concern by CDFG.

4.3.6.1. SURVEY RESULTS

The range of the California spotted owl (*Strix occidentalis occidentalis*) is considered to include the southern Cascades, the entire Sierra Nevada province of California, mountainous regions of the southern California province, and the central Coast Ranges at least as far north as Monterey County (Verner et al. 1992). In the Sierra Nevada, the major forest types comprising known and potential habitat include mixed conifer, red fir, ponderosa pine/hardwood, eastside pine, and foothill riparian/hardwood forests (Verner et al. 1992). Mixed conifer forest is the most abundant forest type and contains most of the known owl sites. Habitats used for nesting typically have greater than 70% total canopy cover, except at very high elevations where canopy cover as low as 30 to 40% may occur (as in some red fir stands of the Sierra Nevada). Nest stands typically include a mixture of tree sizes with a number of very large, old trees and usually at least two

canopy layers. Large snags and an accumulation of downed woody debris are usually present. Foraging habitat is similar in structure and composition, but also comprises more open stands with canopy covers down to 40%.

Home range sizes of California spotted owl tend to be smallest in lower elevation hardwood forests, intermediate in size in conifer forests of the central Sierra Nevada, and largest in true fir forests in the northern Sierra Nevada (Verner et al., 1992). Neal et al. (1990) reported that California spotted owl home ranges in Sierra Nevada mixed conifer forests average 3,400 acres, including about 460 acres in stands with 70% or greater canopy cover, and about 1,990 acres in stands with 40 to 69% canopy cover. Verner et al. (1992) generally concur with these data, indicating that Sierra National Forest owls were found to have a median home range for pairs of approximately 3,000 to 5,000 acres. However, Verner et al. (1992) cite an overall mean home range size of owl pairs during the breeding period in Sierran conifer forests of about 4,200 acres. Owl use areas designated to date by the LTBMU comprise approximately 3,500 to 4,665 acres. Radio telemetry studies have not been undertaken for California spotted owls in the LTBMU, so more accurate home range information is currently unavailable.

A nesting pair of California spotted owls is known to occur 1.5 miles to the west in Burton State Park. The only Protected Activity Center that was active in 2011 in close proximity to the Project area was Burton State Park. Protocol-level surveys for California spotted owl were conducted in the Project area in 2011. Due to lack of California spotted owl detections in the immediate Project area during protocol surveys, it is not anticipated that this species is present in the Project area.

4.3.6.2. AVOIDANCE AND MINIMIZATION EFFORTS

The proposed trail alignment utilizes existing dirt roadways at the northern and southern ends of the project. Utilizing existing dirt roadways minimizes the removal of Jeffrey pine habitat and decreases grading required in suitable nesting and foraging habitat. This minimizes potential impacts California spotted habitat within the BSA. However, the following mitigation measure would further ensure no adverse effect to California spotted owls:

- a qualified biologist shall conduct a preconstruction survey for California spotted owls within the BSA in the spring prior to construction. Should California spotted owls be discovered nesting within the BSA, TRPA and CDFG shall be notified to develop appropriate mitigation measures to limit impacts to the nest and individuals, which may include creation of a buffer zone to protect the nest from construction activities.

4.3.6.3. PROJECT IMPACTS

The BSA provides potential foraging and nesting habitat for this species. Tree removal and construction grading could reduce foraging, roosting and nesting opportunities. However, mitigation identified in Section 4.3.6.2 above would minimize direct adverse effects to the California spotted owl.

The proposed project would impact potential habitat for this species, which is a potential indirect impact. Tree removal and grading would permanently remove approximately 3.16 acres of sierran mixed conifer habitat in the BSA (1.2% of the total sierran mixed conifer habitat within the BSA). The reduction in sierran mixed conifer habitat may limit osprey roosting activity in the BSA but would not impact foraging activities as osprey forage over open water in Lake Tahoe. Vegetation and tree removal would be limited to approximately 14 feet in width and the trail utilizes existing dirt roads to the greatest extent possible. This minimizes impacts to osprey nesting and roosting habitat within the sierran mixed conifer habitat in the BSA. In addition, this species roosts and nests in large, mature trees. Trees larger than 30" dbh are protected in accordance with TRPA temporary Code Section 61.1.4, thereby further reducing the likelihood that trail construction and use would affect individuals. Lastly, because sierran mixed conifer habitat is regionally abundant; it is unlikely that the loss of 3.16 acres of habitat would result in reduced viability or population size for this species.

4.3.6.4. COMPENSATORY MITIGATION

Due to regional abundance of coniferous forest habitat, compensatory mitigation is not required to reduce potential adverse indirect effects to this species. Mitigation identified in Section 4.3.6.2 above would minimize direct adverse effects to California spotted owl.

4.3.6.5. CUMMULATIVE EFFECTS

With incorporation of mitigation measures the proposed project would not adversely affect California spotted owl within the BSA, and because the proposed project will not have adverse direct and indirect effects, it would not contribute towards an adverse cumulative effect.

4.3.7. Mountain beaver (*Aplodontia rufa)*

The mountain beaver is considered a Mammal Species of Special Concern by CDFG.

4.3.7.1. SURVEY RESULTS

Mountain beaver are typically found in dense riparian-deciduous and montane riparian habitats in the Sierra Nevada. Mountain beaver frequent riparian areas with a dense understory in close proximity to water. They require deep friable soils for the creation of burrows and tunnels that are used for cover. Mountain beavers are herbivores that create hay piles at the entrance to their burrows to dry out vegetation prior to eating. Within the vicinity of BSA potential habitat occurs along the banks of Dollar Creek. No evidence of mountain beaver was observed during wildlife surveys or during wetland delineations in 2011. Mountain beaver are not expected to be present within the BSA.

4.3.7.2. AVOIDANCE AND MINIMIZATION EFFORTS

The permanent span style bridge and temporary construction access bridge would avoid direct impacts to Dollar Creek, and limit the impacts to montane riparian habitat that is suitable for mountain beaver.

4.3.7.3. PROJECT IMPACTS

Project impacts to the mountain beaver habitat will occur as a result in the loss of montane riparian habitat. The proposed trail construction and use would not permanently impact wetland habitat. With the use of project construction avoidance measures, as well as required BMPs to protect the Stream Environment Zone, the proposed project would not adversely impact mountain beaver habitat over the long-term. There will be a short-term, temporary impact until the habitat beneath the bridge is restored and functioning at the same level as the surrounding habitat. This will be a minimal short-term, temporary impact due to the extremely limited amount of habitat affected

4.3.7.4. COMPENSATORY MITIGATION

No compensatory mitigation is required.

4.3.7.5. CUMMULATIVE EFFECTS

Because the proposed project will not have adverse direct and indirect effects to the mountain beaver, it would not contribute towards an adverse cumulative effect.

4.3.8. American marten (*Martes americana)*

The American marten is considered a Mammal Species of Special Concern by CDFG.

4.3.8.1. SURVEY RESULTS

The American marten (*Martes americana*) is known to occur in suitable habitat throughout the Sierra Nevada Province. Based on an extensive review of scientific literature and expert opinion, Freel (1991) described preferred habitat as dense (60 to 100% canopy closure), multi-storied, multi-species late seral stage coniferous forest of

red fir, red fir/white fir mixtures, lodgepole, and mixed conifer. A high number of large snags and downed logs are associated with preferred habitat. Habitat areas are generally in close proximity to dense riparian corridors, which are used as travelways. An interspersion of small (<1 acre) openings with good ground cover is required for foraging. For the northern Sierra Nevada, Freel (1991) cites elevation records of 3,400 to 10,400 feet, with an average elevation of 6,000 feet.

According to Freel (1991), numerous and heavily traveled roads are not desirable in American marten habitat areas as they are associated with habitat disruption and animal mortality. Roads may also reduce food availability for American marten by increasing road kills in prey populations and creating behavioral barriers to foraging movements (Allen 1987). Occasional one and two lane forest roads with moderate levels of traffic are not believed to limit American marten movements (Freel 1991).

While forest carnivores were not surveyed for specifically in 2011, database searches with the USFS Lake Tahoe Basin Management Unit do not indicate any historical or present American marten detections within one mile of the BSA (Pers. Comm. Shay Zanetti 2012).

4.3.8.2. AVOIDANCE AND MINIMIZATION EFFORTS

The proposed trail alignment utilizes existing dirt roadways at the northern and southern ends of the project. Utilizing existing dirt roadways minimizes the removal of Jeffrey pine habitat and decreases grading required in suitable nesting and foraging habitat. This minimizes potential impacts American marten habitat within the BSA.

4.3.8.3. PROJECT IMPACTS

The BSA provides potential foraging and denning habitat for this species. Tree removal and construction grading could reduce foraging, roosting and nesting opportunities. However, mitigation identified in Section 4.3.6.2 above would minimize direct adverse effects to American marten.

The proposed project would impact potential habitat for this species, which is a potential indirect impact. Tree removal and grading would permanently remove approximately 3.16 acres of sierran mixed conifer habitat in the BSA (1.2% of the total sierran mixed conifer habitat within the BSA). The reduction in sierran mixed conifer habitat may limit osprey roosting activity in the BSA but would not impact foraging activities as osprey forage over open water in Lake Tahoe. Vegetation and tree removal would be limited to approximately 14 feet in width and the trail utilizes existing dirt roads to the greatest extent possible. This minimizes impacts to osprey nesting and roosting habitat within the

sierran mixed conifer habitat in the BSA. In addition, this species roosts and nests in large, mature trees. Trees larger than 30" dbh are protected in accordance with TRPA temporary Code Section 61.1.4, thereby further reducing the likelihood that trail construction and use would affect individuals. Lastly, because sierran mixed conifer habitat is regionally abundant; it is unlikely that the loss of 3.16 acres of habitat would result in reduced viability or population size for this species.

4.3.8.4. COMPENSATORY MITIGATION

In order to ensure denning marten are not within the proposed alignment prior to commencement of construction the following mitigation shall be implemented:

- a qualified biologist shall conduct a preconstruction survey for American marten den sites within the proposed disturbance area prior to construction. Should a marten den be discovered within the disturbance area, TRPA and CDFG shall be notified to develop appropriate mitigation measures to avoid impacts to the den site and individuals, which may include creation of a buffer zone to protect the den from construction activities.

4.3.8.5. CUMMULATIVE EFFECTS

Because the proposed project will not have adverse direct and indirect effects to the American marten it would not contribute towards an adverse cumulative effect.

Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions

5.1. Regulatory Requirements

5.1.1. Federal Endangered Species Act Consultation Summary

The USFWS and NOAA Fisheries has jurisdiction over species that are formally listed as threatened, endangered, or proposed under FESA. The primary protective requirement in the case of projects requiring federal permits, authorizations, or funding, is the FESA Section 7 requirement for federal lead agencies to consult (or "confer" in the case of proposed species or proposed critical habitat) with the USFWS and NOAA Fisheries to ensure that their actions do not jeopardize the continued existence of threatened or endangered species. In addition to Section 7 requirements, Section 9 of the FESA protects listed wildlife species from "take". Take is broadly defined as those activities that "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect [a protected species], or attempt to engage in any such conduct." An activity can be in violation of take prohibitions even if the activity is unintentional or accidental. Significant modification or degradation of the habitats of listed species, or activities that prevent or significantly impair essential behavioral patterns, including breeding, feeding, or sheltering, are also considered "take" under the FESA and are regulated by the USFWS.

A list of federal endangered and threatened species that may be affected by the proposed project was provided by the USFWS Sacramento Fish and Wildlife Office in September of 2011. One species considered Threatened identified by the USFWS as potentially occurring in the project area, was the Lahontan cutthroat trout. Analysis of potential effects the proposed project would have on the LCT is located within Section 4.3.1 above. With avoidance measures and associated mitigation, the proposed project may affect but is not likely to adversely affect the federally threatened LCT. One candidate species with suitable habitat in the project area is the Sierra Nevada yellow-legged frog. Analysis of potential effects the proposed project would have on the SNYLF is located within section 4.3.2. With avoidance measures and associated mitigation, the proposed project may affect but is not likely to adversely affect the SNYLF.

5.1.2. Federal Fisheries and Essential Fish Habitat Consultation Summary

Public Law 104-297, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to establish new requirements for Essential Fish Habitat (EFH) descriptions in federal Fisheries Management Plans and to require federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH. The Magnuson-Stevens Act requires all fishery management councils to amend their Fishery Management Plans (FMPs) to describe and identify EFH for each managed fishery. The Act also requires consultation for all federal agency actions that may adversely affect EFH (i.e., direct and indirect effects). It does not distinguish between actions in EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside of EFH, such as upstream and upslope activities that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of the activity's location. Under section 305(b)(4) of the Magnuson-Stevens Act, NOAA Fisheries is required to provide EFH conservation and enhancement recommendations to federal and state agencies for actions that adversely affect EFH. However, state agencies and private parties are not required to consult with NOAA Fisheries unless state or private actions require a federal permit or receive federal funding. EFH is managed under the FMPs as directed under the Magnuson-Stevens Fishery Conservation and Management Act.

Based on the proposed project location, the Pacific Coast Chinook Salmon EFH will not be affected, as the surrounding watershed associated with the Truckee River does not flow to the Pacific Ocean.

5.1.3. California Endangered Species Act Consultation Summary

Under the California Endangered Species Act (CESA), CDFG has the responsibility for maintaining a list of threatened species and endangered species (California Fish and Game Code 2070). The CDFG also maintains a list of candidate species, species that the CDFG has formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. The CDFG also maintains lists of species of special concern, which serve as "watch lists." Pursuant to CESA requirements, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present in the project area and determine whether the project would have a potentially significant impact on such

species. In addition, the CDFG encourages coordination on any project that could impact a candidate species.

No state listed species were identified to potentially occur in the vicinity of the proposed project.

5.1.4. Wetlands and Other Waters Coordination Summary

5.1.4.1. U.S. Army Corps of Engineers

The ACOE has primary federal responsibility for administering regulations that concern waters of the U.S. within the project area. The ACOE acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in the navigable waters of the U.S., and the Clean Water Act (Section 404), which governs specified activities in other waters of the U.S., including wetlands. The ACOE requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters of the U.S. below the ordinary high-water mark in non-tidal waters. The U.S. Environmental Protection Agency, USFWS, NOAA Fisheries, and several other agencies provide comment on ACOE permit applications.

The discharge of fill into a jurisdictional feature requires a permit from the ACOE. The ACOE has the option to issue a permit on a case-by-case basis (individual permit) or at a program level (general permit). Nationwide Permits (NWPs) are an example of general permits; they cover specific activities that generally have minimal environmental effects. Activities covered under a particular NWP must fulfill several general and specific conditions, as defined by the NWP. If a project cannot meet these conditions, an individual permit may be required.

NWP 14 applies to activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, airport runways, and taxiways) in waters of the US, including wetlands, if the activity meets the criteria. Based on avoidance and minimization efforts associated with the proposed linear trail, the proposed project would likely qualify under a NWP 14. Analysis of potential jurisdictional wetlands effects based on the proposed project is located in Section 4.1.2.

5.1.4.2. State Regulations

The state's authority to regulate activities in waters of the U.S. resides primarily with the CDFG and the California State Water Resources Control Board (SWRCB). CDFG comments on ACOE permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under the California Fish and Game Code, Sections 1600–1616

to develop mitigation measures and enter into Streambed Alteration Agreements with applicants who propose projects that would obstruct the flow of or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the appropriate RWQCB, must certify that an ACOE permit action meets state water quality objectives (Section 401, Clean Water Act).

California Fish and Game Code Sections 1600–1616 require that the CDFG be notified of any activity that could affect the bank or bed of any stream that has value to fish and wildlife, or of the activity will affect any existing fish or wildlife resource. Upon this notification, the CDFG is responsible for preparing a Streambed Alteration Agreement, in consultation with the project proponent.

5.1.5. Lahontan Regional Water Quality Control Board

The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the U.S. California has an approved state NPDES program. The EPA has delegated authority for water permitting to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The Lahontan Regional Water Quality Control Board (LRWQCB) regulates water quality in the project area.

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are “impaired” (i.e., not meeting one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish Total Maximum Daily Load (TMDL) for the pollutant causing the conditions of impairment. TMDL is the maximum amount of a pollutant that a water body can receive and still meet water quality standards. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The intent of the 303(d) list is to identify water bodies that require future development of a TMDL to maintain water quality.

In accordance with Section 303(d), the SWRCB has identified impaired water bodies within its jurisdiction, and the pollutant or stressor responsible for impairing the water quality. Lake Tahoe and associated tributaries were placed on the federal Clean Water Act section 303(d) list of water bodies requiring TMDLs in 1992, as a result of the

impacts of excessive sedimentation. The Lake Tahoe TMDL was adopted in August 2011 upon approvals of the United States Environmental Protection Agency.

5.2. Other Statutes, Codes, and Policies Affording Limited Species Protection

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380 provides that a species not listed on the federal or state lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals.

5.2.1. Plants

Vascular plants listed as rare or endangered by the CNPS but which have no designated status or protection under federal or state endangered species legislation, are defined as follows:

- **List 1A:** Plants Presumed Extinct in California
- **List 1B:** Plants Rare, Threatened, or Endangered in California and Elsewhere
- **List 2:** Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- **List 3:** Plants About Which We Need More Information–A Review List
- **List 4:** Plants of Limited Distribution–A Watch List

In general, plants appearing on List 1B are considered to meet CEQA's Section 15380 criteria, and effects to these species would be considered significant under CEQA.

5.2.2. Birds

- The federal Bald Eagle Protection Act prohibits persons within the United States (or places subject to its jurisdiction) from "possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof."

- The federal Migratory Bird Treaty Act (16 USC 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

- California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

- Similarly, birds of prey are protected in California under the Fish and Game Code (Section 3503.5, 1992), which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted."

- Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The CDFG considers "taking" to include disturbances that cause nest abandonment and/or loss of reproductive effort.

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Appendix A CNDDB – Search Results

Lithobates pipiens

Element Code: AAABH01170

northern leopard frog

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S2
	Other:	DFG_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive			
Habitat:	**General:**	NATIVE RANGE IS EAST OF SIERRA NEVADA-CASCADE CREST. NEAR PERMANENT OR SEMI-PERMANENT WATER IN A VARIETY OF HABITATS.			
	Micro:	HIGHLY AQUATIC SPECIES. SHORELINE COVER, SUBMERGED AND EMERGENT AQUATIC VEGETATION ARE IMPORTANT HABITAT CHARACTERISTICS			

Occurrence No.	10	**Map Index:**	73692	**EO Index:**	74664	**Element Last Seen:**	1934-06-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1934-06-29
Occ. Type:	Transplant Outside of Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2009-02-27

Quad Summary:	Kings Beach (3912021)
County Summary:	Placer

Lat/Long:	39.23891 / -120.03915	**Accurracy:**	2/5 mile
UTM:	Zone-10 N4347468 E755543	**Elevation (ft):**	6240
PLSS:	T16N, R17E, Sec. 13 (M)	**Acres:**	0.0

Location:	KINGS BEACH AREA, NORTH END OF LAKE TAHOE.
Detailed Location:	LOCATION GIVEN AS, "TROUT CREEK, 2.5 MI W STATELINE". MAPPED ACCORDING TO COORDINATES PROVIDED BY MVZ BETWEEN KINGS BEACH AND TAHOE VISTA.
Ecological:	
General:	6 INDIVIDUALS (MVZ #17175-80) COLLECTED ON 29 JUN 1934 BY H.S. FITCH. TRANSPLANT OUTSIDE OF NATIVE RANGE.
Owner/Manager:	UNKNOWN

Rana sierrae

Element Code: AAABH01340

Sierra Nevada yellow-legged frog

Listing Status:	**Federal:**	Candidate	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Candidate Endangered		**State:**	S1
	Other:	DFG_SSC-Species of Special Concern, IUCN_EN-Endangered, USFS_S-Sensitive			
Habitat:	**General:**	ALWAYS ENCOUNTERED WITHIN A FEW FEET OF WATER. TADPOLES MAY REQUIRE 2 - 4 YRS TO COMPLETE THEIR AQUATIC DEVELOPMENT.			
	Micro:				

Occurrence No.	75	**Map Index:**	44739	**EO Index:**	44739	**Element Last Seen:**	1960-08-17
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1960-08-17
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-01-12

Quad Summary: Tahoe City (3912022), Granite Chief (3912023)

County Summary: Placer

Lat/Long:	39.17574 / -120.25028	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4339881 E737531	**Elevation (ft):**	7500
PLSS:	T15N, R16E, Sec. 06 (M)	**Acres:**	0.0

Location: FIVE LAKES, SOUTHWEST OF SQUAW VALLEY AND WEST OF ALPINE MEADOWS SKI AREA. GRANITE CHIEF WILDERNESS AREA.

Detailed Location: LOCATION GIVEN AS 1.7 MI SOUTH AND 1.4 MI WEST OF SQUAW VALLEY.

Ecological: HIGH ELEVATION LAKES.

General: 7 ADULTS COLLECTED 17 AUG 1960 BY PAUL DEBENEDICTIS. DEPOSTIED INTO THE MUSEUM OF VERTEBRATE ZOOLOGY, UC BERKELEY. MVZ #'S 71849-71855.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	80	**Map Index:**	44759	**EO Index:**	44759	**Element Last Seen:**	1935-08-07
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1935-08-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-01-18

Quad Summary: Martis Peak (3912031)

County Summary: Nevada

Lat/Long:	39.36760 / -120.02845	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4361783 E755997	**Elevation (ft):**	5540
PLSS:	T17N, R18E, Sec. 06 (M)	**Acres:**	21.9

Location: GRAY CREEK, 0.4 MILE SSE OF CONFLUENCE WITH TRUCKEE RIVER, 2.6 MILES EAST OF HIRSCHDALE, TAHOE NATIONAL FOREST.

Detailed Location: LOCATION WAS GIVEN ONLY AS 0.5 MILE ABOVE MOUTH OF GRAY CREEK, MAPPED STREAM SECTION FROM 0.5 STREAM MILES TO 0.5 AIR MILES FROM MOUTH.

Ecological:

General: MVZ SPECIMEN #18603 COLLECTED BY H. FITCH ON 7 AUG 1935 (#2767), SEX UNKNOWN, WHOLE ANIMAL (ALCOHOL) IN COLLECTION.

Owner/Manager: USFS-TOIYABE NF

Occurrence No.	91	**Map Index:**	44796	**EO Index:**	44796	**Element Last Seen:**	1960-08-17
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1960-08-17
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-01-24

Quad Summary: Tahoe City (3912022), Granite Chief (3912023)

County Summary: Placer

Lat/Long:	39.19780 / -120.23418	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4342372 E738848	**Elevation (ft):**	6500
PLSS:	T16N, R16E, Sec. 32 (M)	**Acres:**	321.3

Location: UNNAMED CREEK, SQUAW CREEK, SQUAW MEADOWS, SQUAW VALLEY, TAHOE NATIONAL FOREST.

Detailed Location: LOCATIONS WAS GIVEN AS 0.6 TO 1.5 MILE SW OF SQUAW VALLEY P.O., IN UNNAMED CREEK, SEEPAGE PONDS & SQUAW MEADOWS; MAPPED TO TRIB, & SQUAW CREEK THROUGH THE MEADOWS.

Ecological: ALPINE MEADOW

General: 19 MVZ SPECIMEN #'S: 71830 - 71848 COLLECTED BY P. DEBENEDICTIS (#'S 1-11, 23-25, 28-32), 14-17 AUG 1960. SEX UNKNOWN, WHOLE ANIMALS (ALCOHOL) IN COLLECTION.

Owner/Manager: USFS-TAHOE NF

Pandion haliaetus

Element Code: ABNKC01010

osprey

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	CDF_S-Sensitive, DFG_WL-Watch List, IUCN_LC-Least Concern			
Habitat:	**General:**	OCEAN SHORE, BAYS, FRESH-WATER LAKES, AND LARGER STREAMS.			
	Micro:	LARGE NESTS BUILT IN TREE-TOPS WITHIN 15 MILES OF A GOOD FISH-PRODUCING BODY OF WATER.			

Occurrence No.	400	**Map Index:**	64512	**EO Index:**	64591	**Element Last Seen:**	2005-05-04
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-05-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-04-19

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.06144 / -120.11542	**Accurracy:**	specific area
UTM:	Zone-10 N4327555 E749586	**Elevation (ft):**	6240
PLSS:	T14N, R17E, Sec. 17 (M)	**Acres:**	9.6

Location: ALONG THE SHORE OF OF SUGAR PINE POINT STATE PARK, IN EDWIN L. Z'BERG NATURAL PRESERVE

Detailed Location: NEST ID: SPP 01 AND SPP 02.

Ecological: HABITAT CONSISTS OF SIERRAN MIXED CONIFER FOREST, DOMINATED BY PINE, CEDAR, & FIR.

General: HISTORIC NEST SITE (SPP 01); NEST TREE FELL DURING WINTER 2004-2005. SPP 02 MAY BE REPLACEMENT NEST SITE FOR PAIR THAT USED SPP 01; 1 ADULT OBSERVED BEING HARRASSED BY RAVENS.

Owner/Manager: DPR-EDWIN L Z'BERG NP

Accipiter gentilis

Element Code: ABNKC12060

northern goshawk

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S3
	Other:	BLM_S-Sensitive, CDF_S-Sensitive, DFG_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive			
Habitat:	**General:**	WITHIN, AND IN VICINITY OF, CONIFEROUS FOREST. USES OLD NESTS, AND MAINTAINS ALTERNATE SITES.			

Micro: USUALLY NESTS ON NORTH SLOPES, NEAR WATER. RED FIR, LODGEPOLE PINE, JEFFREY PINE, AND ASPENS ARE TYPICAL NEST TREES.

Occurrence No.	118	**Map Index:** 14094	**EO Index:**	26694	**Element Last Seen:** 1980-XX-XX
Occ. Rank:	Unknown		**Presence:**	Presumed Extant	**Site Last Seen:** 1981-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 1989-08-10

Quad Summary: Homewood (3912012), Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.11212 / -120.16741	**Accurracy:**	1 mile
UTM:	Zone-10 N4333040 E744911	**Elevation (ft):**	6340
PLSS:	T15N, R16E, Sec. 25 (M)	**Acres:**	0.0

Location: BLACKWOOD CANYON.

Detailed Location:

Ecological:

General: EYRIE NO. PC001. NEST ACTIVE IN 1980; INACTIVE IN 1981. (REED)

Owner/Manager: PVT

Occurrence No.	304	**Map Index:** 33578	**EO Index:**	29800	**Element Last Seen:** 1992-XX-XX
Occ. Rank:	Excellent		**Presence:**	Presumed Extant	**Site Last Seen:** 1999-07-14
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown	**Record Last Updated:** 2000-02-14

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.29459 / -120.01789	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4353709 E757175	**Elevation (ft):**	8200
PLSS:	T17N, R18E, Sec. 31 (M)	**Acres:**	829.5

Location: EAST OF MARTIS PEAK AND WEST OF THE NEVADA STATE LINE, NORTH TAHOE AREA

Detailed Location: NEST IS LOCATED IN A MISTLETOE BROOM IN A RED FIR (104-FT TALL, 30-INCH DBH). NEST TREE IS FOUND AT THE BREAK OF THE SLOPE, AND THERE IS AN OPEN AREA IMMEDIATELY DOWNSLOPE FROM THE NEST TREE.

Ecological: NEST TREE IS A RED FIR WITHIN AN OPEN STAND. WHR TYPE = SMC 6; 75% CANOPY WITHIN 0.1 ACRE OF NEST TREE, 13% SLOPE, NE ASPECT. CROSS-COUNTRY DIRT BIKE TRAIL FOUND AT THE BASE OF THE NEST TREE.

General: TERRITORY #7 (93-PLA-01). NEST WAS ACTIVE IN 1992; SUCCESS UNKNOWN. NEST PRESENT, BUT INACTIVE, IN 1993, 1994 (2 ADULTS OBSERVED IN NEST STAND, HOWEVER), AND 1995-99.

Owner/Manager: PVT

Occurrence No.	305	**Map Index:**	33579	**EO Index:**	29801	**Element Last Seen:**	1999-07-14
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-07-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-02-14

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.29400 / -120.07682	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4353477 E752094	**Elevation (ft):**	6850
PLSS:	T17N, R17E, Sec. 27 (M)	**Acres:**	635.1

Location: JUST EAST OF MONTE CARLO MEADOWS, 2 MILES WEST OF MARTIS PEAK, TAHOE.

Detailed Location: NEST (93-PLA-2) IS LOCATED AGAINST THE BOLE OF A JEFFREY PINE (80-FT TALL, 22-INCH DBH); LOCATED NEXT TO 3 SKID TRAILS. ALTERNATE NEST SITE (94-PLA-5) IS LOCATED IN A CROOK WITH A NEW TOP OF A JEFFREY PINE (78-FT TALL, 18-INCH DBH).

Ecological: NEST TREES ARE JEFFREY PINE WITHIN A LOGGED/BIOMASSED (1993) JEFFREY PINE FOREST (WHR TYPE = JPN 4M). 48% CANOPY WITHIN 0.1 ACRE OF NEST TREE. 14% SLOPE; NW SLOPE ASPECT. BUFFERED AREA (8 ACRES) DESIGNATED UPON DISCOVERY, BUT AFTER CUTTING.

General: TERRITORY #8 (93-PLA-2, 94-PLA-5). 93-PLA-2: NEST WAS ACTIVE IN 1992. NEST PRESENT, BUT INACTIVE, 1993-99. 94-PLA-05: INCUBATING FEMALE OBSERVED IN JUNE 1996; WHITEWASH/PELLETS INDICATE FLEDGING. INACTIVE IN 1997. ACTIVE IN 1998 AND 1999.

Owner/Manager: PVT

Occurrence No.	307	**Map Index:**	33581	**EO Index:**	29718	**Element Last Seen:**	1997-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-08-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-02-16

Quad Summary: Truckee (3912032), Norden (3912033)

County Summary: Placer

Lat/Long:	39.29323 / -120.24587	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4352934 E737515	**Elevation (ft):**	7000
PLSS:	T17N, R16E, Sec. 30 (M)	**Acres:**	657.6

Location: 2 MILES SOUTH OF DONNER MEMORIAL STATE PARK, SOUTH OF DONNER LAKE

Detailed Location: NEST IS LOCATED AGAINST THE BOLE IN A RED FIR SNAG (74-FT TALL, 19-INCH DBH).

Ecological: NEST TREE IS A RED FIR WITHIN A FIR STAND (RFR 4D) WITH NUMEROUS SNAGS; NO UNDERSTORY, LIGHT REGENERATION OCCURRING. NEST IS SHELTERED BY 2 WHITE FIRS (10- AND 16-INCH DBH), WITH BRANCHES COVERING NEST IN NORTH HEMISPHERE.

General: TERRITORY #26 (95-PLA-1). 1 FLEDGLING OBSERVED ON 1 AUG 1995. NEST WAS INACTIVE IN JUNE 1996, BUT TERRITORY WAS PROBABLY ACTIVE (GOSHAWKS OBSERVED). WHITEWASH INDICATED NEST WAS ACTIVE IN 1997. NEST INACTIVE, 1998-99.

Owner/Manager: PVT

Occurrence No.	308	**Map Index:**	33582	**EO Index:**	26317	**Element Last Seen:**	1996-08-16
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1999-08-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-02-16

Quad Summary: Truckee (3912032)

County Summary: Placer

Lat/Long:	39.26429 / -120.18946	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4349871 E742481	**Elevation (ft):**	6450
PLSS:	T16N, R16E, Sec. 03 (M)	**Acres:**	662.9

Location: SAWTOOTH RIDGE, 4 MILES SW OF TRUCKEE-TAHOE AIRPORT.

Detailed Location: NEST IS LOCATED ON A MISTLETOE BROOM IN A RED FIR (122-FT TALL, 28-INCH DBH). NEST TREE IS AT THE EDGE OF A CLEARED AREA, IMMEDIATELY ADJACENT TO A SKID TRAIL.

Ecological: NEST TREE IS A RED FIR, DEVOID OF BRANCHES ON THE SW SIDE UNTIL ABOVE NEST WITHIN RED FIR FOREST (WHR TYPE = RFR 4D). 64% CANOPY WITHIN 0.1 ACRE OF NEST TREE. 28% SLOPE; NE SLOPE ASPECT. 10% OF GROUND COVERED WITH BRUSH AND CLASS 1 FIRS.

General: TERRITORY #27 (95-PLA-2). 1 FLEDGLING CALLED IN ON 9 AUG 1995; NEST MEASUREMENTS TAKEN. 1 ADULT OBSERVED DEFENDING ON 13 JUNE 1996; 1 FLEDGLING CALLED IN ON 16 AUG 1996. REMNANT NEST STILL PRESENT/INACTIVE, 1997 -99.

Owner/Manager: PVT

Occurrence No.	427	**Map Index:**	59578	**EO Index:**	59614	**Element Last Seen:**	2005-07-01
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-07-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-04-20

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.20247 / -120.13894	**Accurracy:**	specific area
UTM:	Zone-10 N4343146 E747056	**Elevation (ft):**	6760
PLSS:	T16N, R17E, Sec. 30 (M)	**Acres:**	9.3

Location: 0.15 KM EAST OF THE TRIBUTARY TO BURTON CREEK, BURTON CREEK STATE PARK

Detailed Location:

Ecological: HABITAT CONSISTS OF SIERRAN MIXED CONIFER FOREST.

General: 2 ADULTS AND 2 JUVENILES OBSERVED AT THE NEST ON 2 JUN 2004. 1 ADULT AND 1 JUVENILE OBSERVED ON 1 JUL 2005.

Owner/Manager: DPR-BURTON CREEK SP

Occurrence No.	429	**Map Index:** 64484	**EO Index:**	64563		**Element Last Seen:**	2005-06-27
Occ. Rank:	Good		**Presence:**	Presumed Extant		**Site Last Seen:**	2005-06-27
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown		**Record Last Updated:**	2006-04-17

Quad Summary: Homewood (3912012)

County Summary: El Dorado

Lat/Long:	39.03576 / -120.15763	**Accurracy:**	80 meters
UTM:	Zone-10 N4324590 E746022	**Elevation (ft):**	6500
PLSS:	T14N, R16E, Sec. 25 (M)	**Acres:**	0.0

Location: JUST EAST OF LILY POND, NORTH OF GENERAL CREEK. SUGAR PINE POINT STATE PARK

Detailed Location:

Ecological: NEST WAS LOCATED WITHIN AN ASPEN STAND WITH AN ALDER UNDERSTORY; SURROUNDED BY SIERRAN MIXED CONIFEROUS FOREST ON A MINIMAL SLOPE.

General: ACTIVE NEST WITH 2 CHICKS OBSERVED ON 27 JUN 2005; ONLY 1 CHICK FLEDGED.

Owner/Manager: DPR-SUGAR PINE POINT SP

Empidonax traillii

Element Code: ABPAE33040

willow flycatcher

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	Endangered		**State:**	S1S2
	Other:	ABC_WLBCC-Watch List of Birds of Conservation Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	INHABITS EXTENSIVE THICKETS OF LOW, DENSE WILLOWS ON EDGE OF WET MEADOWS, PONDS, OR BACKWATERS; 2000-8000 FT ELEVATION			
	Micro:	REQUIRES DENSE WILLOW THICKETS FOR NESTING/ROOSTING. LOW, EXPOSED BRANCHES ARE USED FOR SINGING POSTS/HUNTING PERCHES.			

Occurrence No.	26	**Map Index:** 42494	**EO Index:**	58271		**Element Last Seen:**	1915-07-03
Occ. Rank:	Unknown		**Presence:**	Presumed Extant		**Site Last Seen:**	1915-07-03
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown		**Record Last Updated:**	2004-11-29

Quad Summary: Truckee (3912032)

County Summary: Nevada, Placer

Lat/Long:	39.33030 / -120.17954	**Accurracy:**	1 mile
UTM:	Zone-10 N4357225 E743108	**Elevation (ft):**	6000
PLSS:	T17N, R16E, Sec. 11 (M)	**Acres:**	0.0

Location: TRUCKEE.

Detailed Location:

Ecological:

General: UCLA #24,575. 1 MALE DETECTED ON 3 JUL 1915.

Owner/Manager: UNKNOWN

Occurrence No.	104	**Map Index:**	30668	**EO Index:**	4384	**Element Last Seen:**	1994-06-28
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1994-06-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2005-12-06

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.14117 / -120.20401	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4336166 E741647	**Elevation (ft):**	6600
PLSS:	T15N, R16E, Sec. 15 (M)	**Acres:**	91.5

Location: WARD CREEK, ABOUT 2.5 MILES WEST OF THE WESTERN SHORE OF LAKE TAHOE AND 4 MILES SW OF TAHOE CITY.

Detailed Location: OFF OF WARD CREEK BLVD - DRIVE 0.4 MILE ON FS RD 15N62; MEADOW AREA IS LOCATED BEHIND A LOG FENCE.

Ecological: HABITAT CONSISTS OF WET MEADOW DOMINATED BY WILLOW SPECIES (WITH LODGPOLE PINE INTERMIXED) ALONG WARD CREEK. ALDER ALSO PRESENT.

General: 1 ADULT AND 1 OF UNKNOWN AGE OBSERVED DURING A SURVEY CONDUCTED ON 28 JUNE 1994.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	110	**Map Index:**	45304	**EO Index:**	45304	**Element Last Seen:**	1992-06-25
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-06-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2001-05-02

Quad Summary: Martis Peak (3912031)

County Summary: Nevada

Lat/Long:	39.36669 / -120.06689	**Accurracy:**	80 meters
UTM:	Zone-10 N4361574 E752689	**Elevation (ft):**	5440
PLSS:	T18N, R17E, Sec. 35 (M)	**Acres:**	0.0

Location: ISLAND IN THE MIDDLE OF THE TRUCKEE RIVER, 0.5 MILE EAST OF HIRSCHDALE

Detailed Location:

Ecological: HABITAT CONSISTS OF AN ISLAND VEGETATED BY WILLOW SCRUB.

General: ONE SINGING ADULT OBSERVED ON 25 JUN 1992; BREEDING TERRITORY NOT LARGE ENOUGH TO ACCOMODATE MORE THAN ONE PAIR.

Owner/Manager: UNKNOWN

Occurrence No.	111	**Map Index:**	45305	**EO Index:**	45305	**Element Last Seen:**	2008-06-21
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2008-06-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-08-25

Quad Summary: Truckee (3912032)

County Summary: Placer

Lat/Long:	39.29702 / -120.13679	**Accurracy:**	specific area
UTM:	Zone-10 N4353647 E746910	**Elevation (ft):**	5840
PLSS:	T17N, R17E, Sec. 30 (M)	**Acres:**	19.0

Location: MARTIS CREEK, ABOUT 0.9 TO 1.3 MI UPSTREAM FROM HIGHWAY 267, MARTIS CREEK LAKE NATIONAL RECREATION AREA.

Detailed Location: 1996: LOCATION PLOTTED ON A MAP (1 SITE). 2004: COORDINATES PROVIDED (1 SITE). 2008: COORDINATES PROVIDED (3 SITES). MAPPED TO THE 5 LOCATIONS.

Ecological: WILLOW SCRUB RIPARIAN IN FLAT OPEN MEADOW. SHALLOW GRADIENT STREAM WITH BORDERS OF WILLOW & STEEP ERODED BANKS. 1996: DEFINITE POTENTIAL HABITAT, BUT COULDN'T SUPPORT >2-4 TERRITORIES. SITE QUALITY MARKED AS "FAIR" IN ALL 3 SOURCES.

General: 1 SINGING ADULT DETECTED ON 28 JUL 1996; 2 DETECTED AT SAME LOCATION ON 26 JUN 1999. 2 BREEDING ADULTS DETECTED ON 3 JUL 2004. 3-4 BREEDING ADULTS DETECTED ON 21 JUN 2008. ALL DETECTIONS RESIDENT/TERRITORIAL BASED ON BOMBAY ET AL PROTOCOL.

Owner/Manager: DOD-COE

Occurrence No.	140	**Map Index:**	65863	**EO Index:**	65942	**Element Last Seen:**	2004-06-13
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-06-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-08-16

Quad Summary: Homewood (3912012)

County Summary: Placer

Lat/Long:	39.11044 / -120.18045	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4332818 E743789	**Elevation (ft):**	1950
PLSS:	T15N, R16E, Sec. 35 (M)	**Acres:**	79.9

Location: BLACKWOOD CREEK ABOUT 0.7 TO 1.7 MI WEST OF LAKE TAHOE.

Detailed Location: MAPPED ALONG BLACKWOOD CREEK IN SECTION 35 AS PER SOURCE.

Ecological:

General: BREEDING & NESTING SITE. 4 ADULTS DETECTED THROUGHOUT SUMMER FROM 13 JUN 2004.

Owner/Manager: USFS

Occurrence No.	142	**Map Index:**	76326	**EO Index:**	77305	**Element Last Seen:**	2004-08-03
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-08-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-09-14

Quad Summary:	Martis Peak (3912031), Truckee (3912032)
County Summary:	Placer

Lat/Long:	39.30113 / -120.12643	**Accurracy:**	80 meters
UTM:	Zone-10 N4354132 E747789	**Elevation (ft):**	5840
PLSS:	T17N, R17E, Sec. 19 (M)	**Acres:**	0.0

Location:	MARTIS CREEK, ABOUT 0.4 MI UPSTREAM (~WSW) FROM HIGHWAY 267, MARTIS CREEK LAKE NATIONAL RECREATION AREA.
Detailed Location:	MAPPED TO PROVIDED COORDINATES.
Ecological:	SALIX LEMMONII, S. GEYERIANNA ALONG CREEK. SURROUNDING LAND USED FOR RECREATION (HEAVY HUMAN USE, DOGS). MAT DESCRIBED OVERALL SITE QUALITY AS "EXCELLENT."
General:	2 SINGLE MALES AND 1 NESTING PAIR (NEST NOT SUCCESSFUL) DETECTED ON 2 JUNE & MONITORED THROUGH 3 AUG 2004.
Owner/Manager:	DOD-COE-MARTIS CREEK LAKE NRA

Dendroica petechia brewsteri

Element Code: ABPBX03018

yellow warbler

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3?
	State:	None		**State:**	S2
	Other:	DFG_SSC-Species of Special Concern, USFWS_BCC-Birds of Conservation Concern			
Habitat:	**General:**	RIPARIAN PLANT ASSOCIATIONS. PREFERS WILLOWS, COTTONWOODS, ASPENS, SYCAMORES, & ALDERS FOR NESTING & FORAGING.			
	Micro:	ALSO NESTS IN MONTANE SHRUBBERY IN OPEN CONIFER FORESTS.			

Occurrence No.	67	**Map Index:**	13949	**EO Index:**	24901	**Element Last Seen:**	1988-08-04
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-08-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1989-08-10

Quad Summary: Truckee (3912032)

County Summary: Nevada

Lat/Long:	39.32434 / -120.23742	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4356410 E738139	**Elevation (ft):**	5900
PLSS:	T17N, R16E, Sec. 18 (M)	**Acres:**	0.0

Location: IMMEDIATELY EAST OF DONNER LAKE, DONNER MEMORIAL STATE PARK.

Detailed Location: BIRD OBSERVED FORAGING IN AREA.

Ecological: HABITAT IS VEGETATION MOSAIC OF QUAKING ASPEN STAND, MIXED CONIFER FOREST & SMALL AREA OF MONTANE CHAPARRAL SAGEBRUSH SCRUB. ALSO CLOSE PROXIMITY TO STREAM. MANY OTHER SPECIES OBSERVED.

General:

Owner/Manager: DPR-DONNER MEMORIAL SP

Occurrence No.	68	**Map Index:**	14130	**EO Index:**	24900	**Element Last Seen:**	1988-07-29
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-07-29
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1989-08-10

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.20406 / -120.15603	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4343276 E745576	**Elevation (ft):**	6840
PLSS:	T16N, R16E, Sec. 25 (M)	**Acres:**	0.0

Location: N OF ANTONE MDWS, 0.8 MI E ALONG BURTON CK FROM BEAR TRAP CABIN, BURTON CREEK STATE PARK

Detailed Location: 1 MALE & 1 FEMALE SEEN (PERHAPS 1 MALE & 1 JUVENILE).

Ecological: OBSERVED ALONG ALDER/WILLOW THICKET ALONG MEANDERING STREAM. DOMINANT PLANTS INCL ALNUS TENUIFOLIA, CORNUS STOLONIFERA, AND SALIX SPP. INTEGRADES WITH MONTANE CHAPARRAL DOMINATED CEANOTHUS PROSTRATUS, CEANOTHUS CORDULATUS, RIBES SP.

General:

Owner/Manager: DPR-BURTON CREEK SP

Oncorhynchus clarkii henshawi

Element Code: AFCHA02081

Lahontan cutthroat trout

Listing Status:	**Federal:**	Threatened	**CNDDB Element Ranks:**	**Global:**	G4T3
	State:	None		**State:**	S2
	Other:	AFS_TH-Threatened			
Habitat:	**General:**	HISTORICALLY IN ALL ACCESSIBLE COLD WATERS OF THE LAHONTON BASIN IN A WIDE VARIETY OF WATER TEMPS & CONDITIONS.			

Micro: CANNOT TOLERATE PRESENCE OF OTHER SALMONIDS. REQUIRES GRAVEL RIFFLES IN STREAMS FOR SPAWNING.

Occurrence No.	9	**Map Index:** 13941	**EO Index:** 14873	**Element Last Seen:**	1993-08-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1993-08-XX
Occ. Type:	Introduced Back into Native Hab./Range		**Trend:** Unknown	**Record Last Updated:**	1996-05-03

Quad Summary: Tahoe City (3912022), Granite Chief (3912023)

County Summary: Placer

Lat/Long:	39.23258 / -120.24250	**Accurracy:**	specific area
UTM:	Zone-10 N4346210 E738011	**Elevation (ft):**	6680
PLSS:	T16N, R16E, Sec. 17 (M)	**Acres:**	117.4

Location: POLE CREEK, TRIBUTARY TO TRUCKEE RIVER.

Detailed Location: 1 MILE OF OCCUPIED HABITAT (1982)

Ecological: REINTRODUCED POPULATION; PRESENCE CONFIRMED BY J. DEINSTADT IN 1983 & E. GERSTUNG IN 1993; NO OTHER FISH IN CREEK; BARRIER AT LOWER END PREVENTS INVASION BY TRUCKEE FISH.

General: HABITAT QUALITY GOOD. 1982 ESTIMATED TOTAL POPULATION OF 200 CT-L

Owner/Manager: USFS-TAHOE NF, PVT

Occurrence No.	10	**Map Index:** 14236	**EO Index:** 14870	**Element Last Seen:**	2001-XX-XX
Occ. Rank:	None		**Presence:** Extirpated	**Site Last Seen:**	2001-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2001-04-09

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.30707 / -120.10021	**Accurracy:**	specific area
UTM:	Zone-10 N4354863 E750030	**Elevation (ft):**	5820
PLSS:	T16N, R17E, Sec. 20 (M)	**Acres:**	107.7

Location: E MARTIS CR FROM 0.25 MI S OF OLD JOERGER RANCH TO 0.75 MI W OF THE CONFLUENCE OF MONTE CARLO CR, PLACER COUNTY.

Detailed Location: ISOLATED POPULATION PRESENT ABOVE BEAVER PONDS. POSSIBLY RAINBOW TROUT NOT CUTTHROAT NEEDS TO BE RECHECKED.

Ecological: RIVERINE

General: POPULATION KNOWN TO BE PRESENT IN 1980 AND 1993. BY 2001 PURE POPULATION ELIMINATED. A FEW HYBRIDS MAY STILL BE PRESENT, MOSTLY BROWN, RAINBOW AND BROOK TROUT.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	11	**Map Index:** 14224	**EO Index:**	14872		**Element Last Seen:**	1980-XX-XX
Occ. Rank:	None		**Presence:**	Extirpated		**Site Last Seen:**	1980-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown		**Record Last Updated:**	1996-01-25

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.29497 / -120.11646	**Accurracy:**	specific area
UTM:	Zone-10 N4353475 E748671	**Elevation (ft):**	6120
PLSS:	T17N, R17E, Sec. 20 (M)	**Acres:**	138.4

Location: MIDDLE MARTIS CREEK, ALONG HIGHWAY 267 APPROXIMATELY 3 MILES FROM TRUCKEE, PLACER COUNTY.

Detailed Location:

Ecological:

General: ACCORDING TO E. GERTUNG FISH ARE NO LONGER PRESENT. UNKNOWN WHEN THEY DISAPPEARED.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	13	**Map Index:** 14128	**EO Index:**	14871		**Element Last Seen:**	1983-XX-XX
Occ. Rank:	None		**Presence:**	Extirpated		**Site Last Seen:**	1993-XX-XX
Occ. Type:	Introduced Back into Native Hab./Range		**Trend:**	Decreasing		**Record Last Updated:**	1996-01-11

Quad Summary: Martis Peak (3912031), Truckee (3912032)

County Summary: Placer

Lat/Long:	39.28543 / -120.15341	**Accurracy:**	specific area
UTM:	Zone-10 N4352315 E745517	**Elevation (ft):**	6000
PLSS:	T17N, R16E, Sec. 36 (M)	**Acres:**	293.3

Location: MARTIS CREEK (TRIBUTARY TO TRUCKEE RIVER), NEAR TRUCKEE, PLACER COUNTY.

Detailed Location:

Ecological: REINTRODUCED POPULATION; PRESENCE CONFIRMED BY J. DEINSTADT IN 1983; POP BECOMING INTROGRESSED W/RAINBOW TROUT; BROOK & BROWN TROUT, GREEN SUNFISH, & NATIVE SPP ALSO PRESENT. BY 1993 POPULATION HAD BEEN EXTIRPATED.

General: RESERVOIR AND DAM DOWNSTREAM. AREA TREATED IN 1977.

Owner/Manager: USFS-TAHOE NF, PVT

Myotis volans

Element Code: AMACC01110

long-legged myotis

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S4?
	Other:	IUCN_LC-Least Concern, WBWG_H-High Priority			
Habitat:	**General:**	MOST COMMON IN WOODLAND & FOREST HABITATS ABOVE 4000 FT. TREES ARE IMPORTANT DAY ROOSTS; CAVES & MINES ARE NIGHT ROOSTS.			
	Micro:	NURSERY COLONIES USUALLY UNDER BARK OR IN HOLLOW TREES, BUT OCCASIONALLY IN CREVICES OR BUILDINGS.			

Occurrence No.	23	**Map Index:**	68370	**EO Index:**	68568	**Element Last Seen:**	2002-08-26
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-08-26
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-03-07

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.22838 / -120.13187	**Accurracy:**	1/10 mile
UTM:	Zone-10 N4346041 E747576	**Elevation (ft):**	7530
PLSS:	T16N, R17E, Sec. 18 (M)	**Acres:**	0.0

Location: TAHOE NATIONAL FOREST, ABOUT 0.4MI NE OF WATSON LAKE, IN VICINITY OF WATSON CREEK.

Detailed Location: MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY SOURCE.

Ecological: STREAM SURROUNDED BY WILLOW AND ALDER. NET SITE IS SMALL POOL CREATED BY CULVERT.

General: 1 ADULT MALE OBSERVED ON 25 JUN 2002. 1 ADULT MALE OBSERVED ON 26 AUG 2002.

Owner/Manager: USFS

Occurrence No.	24	**Map Index:**	68371	**EO Index:**	68569	**Element Last Seen:**	2002-07-31
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-07-31
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-04-20

Quad Summary: Meeks Bay (3912011), Homewood (3912012)

County Summary: El Dorado

Lat/Long:	39.03549 / -120.12517	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4324648 E748833	**Elevation (ft):**	6230
PLSS:	T14N, R17E, Sec. 29 (M)	**Acres:**	0.0

Location: EL DORADO NATIONAL FOREST, JUST SW OF MEEKS BAY IN THE VICINITY OF MEEKS BAY CAMPGROUND.

Detailed Location: UTM COORDINATES GIVEN DO NOT MATCH THE T-R-S DESCRIPTION OR THE HABITAT DESCRIPTION. MAPPED ACCORDING TO THE T-R-S DESCRIPTION PROVIDED BY SOURCE.

Ecological: MONTANE CONIFER. STREAM WITH THICKETS AND BANKS.

General: 2 LACTATING FEMALES OBSERVED ON 12 JUN, 1 FEMALE OBSERVED ON 31 JUL 2002/

Owner/Manager: USFS-ELDORADO NF

Occurrence No.	25	**Map Index:**	68372	**EO Index:**	68570	**Element Last Seen:**	2002-09-03
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-09-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-04-20

Quad Summary: Homewood (3912012)

County Summary: El Dorado

Lat/Long:	39.01805 / -120.15498	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4322632 E746312	**Elevation (ft):**	6282
PLSS:	T14N, R16E, Sec. 36 (M)	**Acres:**	24.0

Location: MEEKS CREEK, EL DORADO NATIONAL FOREST, ABOUT 2MI SW OF MEEKS BAY.

Detailed Location: THE UTM COORDINATES PROVIDED (E746936 N4322025) DO NOT MATCH THE T-R-S DESCRIPTION OR THE HABITAT DESCRIPTION . MAPPED ALONG THE CREEK IN THE NE 1/4 OF SECTION 36.

Ecological: RIPARIAN, MOSTLY HERB AND GRASSES IN FLAT SECTION OF CREEK. BEAVER DAMS IN CREEK APPEAR TO BE GOOD FOR BATS.

General: 1 LACTATING FEMALE OBSERVED ON 12 AUG, 1 NON-LACTATING FEMALE OBSERVED ON 3 SEP 2002.

Owner/Manager: USFS-ELDORADO NF

Ochotona princeps schisticeps

Element Code: AMAEA0102H

gray-headed pika

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T2T4
	State:	None		**State:**	S2S4
	Other:	IUCN_NT-Near Threatened			
Habitat:	**General:**	MOUNTAINOUS AREAS, GENERALLY AT HIGHER ELEVATIONS, OFTEN ABOVE THE TREELINE UP TO THE LIMIT OF VEGETATION. AT LOWER ELEVATIONS FOUND IN ROCKY AREAS WITHIN FORESTS OR NEAR LAKES.			
	Micro:	TALUS SLOPES, OCCASIONALLY ON MINE TAILINGS. PREFERS TALUS-MEADOW INTERFACE.			

Occurrence No.	17	**Map Index:**	70087	**EO Index:**	70952	**Element Last Seen:**	1937-06-28
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1937-06-28
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-12-15

Quad Summary: Tahoe City (3912022), Granite Chief (3912023)

County Summary: Placer

Lat/Long:	39.14805 / -120.24209	**Accurracy:**	1 mile
UTM:	Zone-10 N4336829 E738331	**Elevation (ft):**	8370
PLSS:	T15N, R16E, Sec. 17 (M)	**Acres:**	0.0

Location: EAST SIDE OF WARD PEAK. VICINITY OF ALPINE MEADOWS SKI AREA.

Detailed Location: MAPPED ACCORDING TO THE LOCATION PROVIDED BY MANIS.

Ecological:

General: ON 28 JUN 1937, R. ORR COLLECTED 1 MALE SPECIMEN (CAS #7646).

Owner/Manager: USFS-TAHOE NF, PVT

Lepus americanus tahoensis

Element Code: AMAEB03012

Sierra Nevada snowshoe hare

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3T4Q
	State:	None		**State:**	S2?
	Other:	DFG_SSC-Species of Special Concern			
Habitat:	**General:**	BOREAL RIPARIAN AREAS IN THE SIERRA NEVADA.			
	Micro:	THICKETS OF DECIDUOUS TREES IN RIPARIAN AREAS AND THICKETS OF YOUNG CONIFERS.			

Occurrence No.	2	**Map Index:**	58727	**EO Index:**	58763	**Element Last Seen:**	1959-10-02
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1959-10-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-12-17

Quad Summary: Emerald Bay (3812081), Meeks Bay (3912011), Homewood (3912012)

County Summary: El Dorado

Lat/Long:	39.01395 / -120.11656	**Accurracy:**	1 mile
UTM:	Zone-10 N4322281 E749654	**Elevation (ft):**	6200
PLSS:	T14N, R17E, Sec. 32 (M)	**Acres:**	0.0

Location: RUBICON PROPERTIES. LOCATED JUST WEST OF RUBICON BAY, LAKE TAHOE.

Detailed Location:

Ecological:

General: 2 MALES AND 1 FEMALE COLLECTED 13 FEB, 15 SEP 1958 & 2 OCT 1959 BY G. WILSON AT "RUBICON SUBDIVISION, BETWEEN EMERALD BAY & MEEKS BAY, LAKE TAHOE." DEPOSITED AT CAS #12089-12091.

Owner/Manager: UNKNOWN

Occurrence No.	4	**Map Index:**	42494	**EO Index:**	58766	**Element Last Seen:**	1915-03-13
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1915-03-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-12-17

Quad Summary: Truckee (3912032)

County Summary: Nevada, Placer

Lat/Long:	39.33030 / -120.17954	**Accurracy:**	1 mile
UTM:	Zone-10 N4357225 E743108	**Elevation (ft):**	6500
PLSS:	T17N, R16E, Sec. 11 (M)	**Acres:**	0.0

Location: TRUCKEE.

Detailed Location:

Ecological:

General: 1 MALE SPECIMEN COLLECTED 13 MAR 1915 BY E. FREEMAN & F. HOLDEN AT "TRUCKEE." DEPOSITED AT MVZ #21433.

Owner/Manager: UNKNOWN

Occurrence No.	6	**Map Index:**	58733	**EO Index:**	58769	**Element Last Seen:**	1929-06-19
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1929-06-19
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-12-17

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.16649 / -120.15214	**Accurracy:**	1 mile
UTM:	Zone-10 N4339116 E746042	**Elevation (ft):**	6350
PLSS:	T15N, R17E, Sec. 07 (M)	**Acres:**	0.0

Location: BETWEEN TAHOE CITY & TAHOE TAVERN.

Detailed Location: COLLECTION LOCATIONS: NEAR TAHOE CITY (NTC), TAHOE CITY (TC), 2 MI S TAHOE CITY (STC), NEAR TAHOE TAVERN (NTT), TAHOE TAVERN 0.33 MI W OF (WTT), AND TAHOE TAVERN 0.5 MI SOUTH OF (STT).

Ecological:

General: ALL AT MVZ. M = MALE, F = FEMALE, U = UNKNOWN. NTC: 1 M JAN 1916. NTT: 1 M JUN 1919. TC: 1 M & 1 F JAN 1921, 1 U JUN 1929. STC: 1 M MAT 1924. WTT: 1 M & 1 U NOV 1926. STT: 1 U, 2 F & 1 M OCT & DEC 1926. 3 U, 3 M & 1 F APR & MAY 1927.

Owner/Manager: UNKNOWN

Lepus townsendii townsendii

Element Code: AMAEB03041

western white-tailed jackrabbit

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T5
	State:	None		**State:**	S3?
	Other:	DFG_SSC-Species of Special Concern			
Habitat:	**General:**	SAGEBRUSH, SUBALPINE CONIFER, JUNIPER, ALPINE DWARF SHRUB & PERENNIAL GRASSLAND.			
	Micro:	OPEN AREAS WITH SCATTERED SHRUBS & EXPOSED FLAT-TOPPED HILLS WITH OPEN STANDS OF TREES, BRUSH & HERBACEOUS UNDERSTORY.			

Occurrence No.	22	**Map Index:**	58733	**EO Index:**	58830	**Element Last Seen:**	1920-12-21
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1920-12-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-12-21

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.16649 / -120.15214	**Accurracy:**	1 mile
UTM:	Zone-10 N4339116 E746042	**Elevation (ft):**	6350
PLSS:	T15N, R17E, Sec. 07 (M)	**Acres:**	0.0

Location: TAHOE CITY, LAKE TAHOE.

Detailed Location:

Ecological:

General: ONE MALE SPECIMEN COLLECTED 21 DEC 1920 BY J. MOFFITT AT : TAHOE CITY, LAKE TAHOE." DEPOSITED AT MVZ #36486.

Owner/Manager: UNKNOWN

Aplodontia rufa californica

Element Code: AMAFA01013

Sierra Nevada mountain beaver

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3T4
	State:	None		**State:**	S2S3
	Other:	DFG_SSC-Species of Special Concern, IUCN_LC-Least Concern			
Habitat:	**General:**	DENSE GROWTH OF SMALL DECIDUOUS TREES & SHRUBS, WET SOIL, & ABUNDANCE OF FORBS IN THE SIERRA NEVADA & EAST SLOPE.			
	Micro:	NEEDS DENSE UNDERSTORY FOR FOOD & COVER. BURROWS INTO SOFT SOIL. NEEDS ABUNDANT SUPPLY OF WATER.			

Occurrence No.	6	**Map Index:**	30590	**EO Index:**	8126	**Element Last Seen:**	1988-06-21
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-06-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-12-13

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.23088 / -120.16718	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4346223 E744519	**Elevation (ft):**	7000
PLSS:	T16N, R16E, Sec. 13 (M)	**Acres:**	279.8

Location: DEER CREEK, AND TRIBUTARIES.

Detailed Location: OCCURRENCE COVERS SOUTHEAST 1/4 OF SEC 14, SOUTHWEST 1/4 OF SEC 13, AND NORTHWEST 1/4 OF SEC 24.

Ecological: HABITAT IS A RIPARIAN ZONE WITH ALNUS AND SALIX SPP.

General: TWO POPULATIONS DETECTED IN 1985; FIVE MALES AND 3 FEMALES TRAPPED 6/18-6/21/88.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	7	**Map Index:**	30589	**EO Index:**	8125	**Element Last Seen:**	1985-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1985-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-12-13

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.21776 / -120.22972	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4344599 E739165	**Elevation (ft):**	6800
PLSS:	T16N, R16E, Sec. 20 (M)	**Acres:**	200.3

Location: SILVER CREEK.

Detailed Location: PORTION OF SILVER CREEK IN SECTION 20 AND THE SOUTHWEST 1/4 OF SECTION 21.

Ecological:

General: THREE POPULATIONS DETECTED IN 1985.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	8	**Map Index:**	30588	**EO Index:**	8121	**Element Last Seen:**	1985-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1985-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-12-13

Quad Summary: Tahoe City (3912022), Granite Chief (3912023)

County Summary: Placer

Lat/Long:	39.23397 / -120.23863	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4346375 E738340	**Elevation (ft):**	7000
PLSS:	T16N, R16E, Sec. 18 (M)	**Acres:**	485.1

Location: POLE CREEK.

Detailed Location: POLE CREEK, FROM HEADWATERS TO THE WESTERN EDGE OF SECTION 16 (T16N, R16E).

Ecological:

General: FIVE POPULATIONS DETECTED IN 1985.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	9	**Map Index:**	30596	**EO Index:**	8123	**Element Last Seen:**	1988-06-16
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-06-16
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-12-14

Quad Summary: Truckee (3912032)

County Summary: Placer

Lat/Long:	39.27775 / -120.21036	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4351309 E740631	**Elevation (ft):**	6500
PLSS:	T17N, R16E, Sec. 32 (M)	**Acres:**	225.0

Location: CABIN CREEK.

Detailed Location: PORTION OF CABIN CREEK FROM WESTERN EDGE OF SECTION 32 TO THE TRUCKEE RIVER.

Ecological: HABITAT IS A RIPARIAN ZONE DOMINATED BY ALNUS AND/OR SALIX SPP.

General: TWO POPULATIONS DETECTED IN 1985; 3 MALES AND 2 FEMALES TRAPPED 6/15-6/16/88.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	10	**Map Index:**	30595	**EO Index:**	24296	**Element Last Seen:**	1988-06-14
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1988-06-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-12-14

Quad Summary: Truckee (3912032)

County Summary: Placer

Lat/Long:	39.28554 / -120.22315	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4352140 E739501	**Elevation (ft):**	6400
PLSS:	T17N, R16E, Sec. 29 (M)	**Acres:**	209.8

Location: UNNAMED CREEK NORTH OF CABIN CREEK.

Detailed Location: PORTION OF UNNAMED CREEK BEGINNING IN SOUTHERN PART OF SECTION 29 AND CONTINUING TO THE TRUCKEE RIVER.

Ecological: HABITAT IS A RIPARIAN ZONE WITH ALNUS AND/OR SALIX SPP.

General: TWO POPULATIONS DETECTED IN 1985; 2 MALES AND 3 FEMALES TRAPPED 6/12-6/14/88.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	11	**Map Index:**	30597	**EO Index:**	8122	**Element Last Seen:**	1985-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1985-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1994-12-14

Quad Summary: Truckee (3912032)

County Summary: Placer

Lat/Long:	39.27097 / -120.21660	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4350540 E740116	**Elevation (ft):**	6400
PLSS:	T17N, R16E, Sec. 05 (M)	**Acres:**	144.2

Location: BRUSH CREEK.

Detailed Location: BRUSH CREEK, FROM NORTHWEST 1/4 OF SECTION 5 TO THE TRUCKEE RIVER.

Ecological:

General: TWO POPULATIONS DETECTED IN 1985.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	14	**Map Index:**	30584	**EO Index:**	8889	**Element Last Seen:**	1985-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1985-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-01-23

Quad Summary:	Mt. Rose (3911938), Martis Peak (3912031)
County Summary:	Nevada, Placer, Nevada State

Lat/Long:	39.30733 / -120.02533	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4355102 E756486	**Elevation (ft):**	7600
PLSS:	T17N, R18E, Sec. 30 (M)	**Acres:**	826.8

Location:	JUNIPER CREEK, AND TRIBUTARIES.
Detailed Location:	JUNIPER CREEK, FROM SEC 13 (T17N, R17E) TO THE STATE BORDER, & TRIBUTARIES IN SECTIONS 24 & 25 (T17N, R17E) & SECTIONS 30 & 31 (T17N, R18E).
Ecological:	
General:	DETECTIONS IN 1985: FIVE POPULATIONS ALONG JUNIPER CREEK; TWO POPULATIONS ALONG TRIBUTARY IN SEC 30; ONE POPULATION ALONG TRIBUTARY IN SEC 25, AND ONE POPULATION ALONG TRIBUTARY IN SEC 31.
Owner/Manager:	USFS-TAHOE NF

Vulpes vulpes necator **Element Code:** AMAJA03012

Sierra Nevada red fox

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3
	State:	Threatened		**State:**	S1
	Other:	USFS_S-Sensitive			
Habitat:	**General:**	FOUND FROM THE CASCADES DOWN TO THE SIERRA NEVADA. FOUND IN A VARIETY OF HABITATS FROM WET MEADOWS TO FORESTED AREAS.			
	Micro:	USE DENSE VEGETATION & ROCKY AREAS FOR COVER & DEN SITES. PREFER FORESTS INTERSPERSED W/ MEADOWS OR ALPINE FELL-FIELDS.			

Occurrence No.	70	**Map Index:** 44259	**EO Index:** 44259	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1994-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2000-11-13

Quad Summary: Truckee (3912032)

County Summary: Nevada

Lat/Long:	39.35210 / -120.17280	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4359663 E743613	**Elevation (ft):**	5920
PLSS:	T17N, R16E, Sec. 02 (M)	**Acres:**	185.2

Location: HIGHWAY 89 BETWEEN JUST NORTH OF ALDER CREEK AND PROSSER DAM ROADS, 0.8 MILE NORTH OF I-80 AND HIGHWAY 89 JUNCTION.

Detailed Location: FOX SEEN ON 3 OCCASSIONS CROSSING HIGHWAY 89.

Ecological:

General: OBSERVED CROSSING HIGHWAY 89 JUST NORTH OF THE WETLANDS/ OPEN SPACE AREA; 3 SIGHTINGS WERE BETWEEN 6:30 AND 7:30 AM, SOMETIME IN 1994.

Owner/Manager: UNKNOWN

Occurrence No.	170	**Map Index:** 77368	**EO Index:** 78273	**Element Last Seen:**	1971-08-21
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1971-08-21
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2009-11-23

Quad Summary: Truckee (3912032)

County Summary: Nevada

Lat/Long:	39.36830 / -120.18275	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4361435 E742699	**Elevation (ft):**	5830
PLSS:	T18N, R16E, Sec. 34 (M)	**Acres:**	27.0

Location: HIGHWAY 89 AT ALDER CREEK, ABOUT 2.8 AIR MILES NORTH OF TRUCKEE POST OFFICE, JUST OUTSIDE TAHOE NATIONAL FOREST.

Detailed Location: LOCATION DESCRIBED IN UCB DATABASE AS "HIGHWAY 89 AT ALDER CREEK." MAPPED TO HIGHWAY 89 IN VICINITY OF ALDER CREEK JUNCTION.

Ecological: MIXED CONIFEROUS FOREST (PINE, DOUGLAS FIR & FIR).

General: ROAD KILL FOUND ON 21 AUG 1971; SKIN & SKULL IN SAGEHEN FIELD STATION COLLECTION.

Owner/Manager: UNKNOWN

Martes americana sierrae **Element Code:** AMAJF01014

Sierra marten

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T3T4
	State:	None		**State:**	S3S4
	Other:	USFS_S-Sensitive			
Habitat:	**General:**	MIXED EVERGREEN FORESTS WITH MORE THAN 40% CROWN CLOSURE ALONG SIERRA NEVADA & CASCADE MTNS.			
	Micro:	NEEDS VARIETY OF DIFFERENT-AGED STANDS, PARTICULARLY OLD-GROWTH CONIFERS & SNAGS WHICH PROVIDE CAVITIES FOR DENS/NESTS.			

Occurrence No.	7	**Map Index:**	30433	**EO Index:**	4222	**Element Last Seen:**	1992-09-02
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-09-02
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-02-09

Quad Summary: Kings Beach (3912021)

County Summary: Placer

Lat/Long:	39.23400 / -120.09013	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4346780 E751160	**Elevation (ft):**	6840
PLSS:	T16N, R17E, Sec. 16 (M)	**Acres:**	0.0

Location: APPROX. 1.2 KM NW OF CARNELIAN BAY, LAKE TAHOE, PLACER COUNTY.

Detailed Location:

Ecological: SPECIES PRESENT INCLUDE: WHITE-FIR, JEFFREY PINE, INCENSE CEDAR, MANZANITA, WHITETHORN, & SNOWBERRY; HEAVY SLASH ON THE GROUND. ROCKY, DUSTY SOIL; SOUTH ASPECT WITH A GRADIENT OF 0-23%.

General: 1 ADULT OBSERVED FORAGING.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	63	**Map Index:**	55232	**EO Index:**	55232	**Element Last Seen:**	1990-10-01
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-10-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2004-04-22

Quad Summary: Homewood (3912012)

County Summary: El Dorado

Lat/Long:	39.02301 / -120.21202	**Accurracy:**	2/5 mile
UTM:	Zone-10 N4323029 E741357	**Elevation (ft):**	7400
PLSS:	T14N, R16E, Sec. 33 (M)	**Acres:**	0.0

Location: RICHARDSON LAKE, 0.5 MILES SOUTH OF THE EL DORADO/PLACER COUNTY LINE, ELDORADO NATIONAL FOREST.

Detailed Location: LOCATION GIVEN ONLY AS RICHARDSON LAKE.

Ecological:

General: 1 ADULT OBSERVED BY KENT ON 1 OCT 1990.

Owner/Manager: USFS-ELDORADO NF

Martes pennanti (pacifica) DPS

Element Code: AMAJF01021

Pacific fisher

Listing Status:	**Federal:**	Candidate	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S2S3
	Other:	BLM_S-Sensitive, DFG_SSC-Species of Special Concern, USFS_S-Sensitive			
Habitat:	**General:**	INTERMEDIATE TO LARGE-TREE STAGES OF CONIFEROUS FORESTS & DECIDUOUS-RIPARIAN AREAS WITH HIGH PERCENT CANOPY CLOSURE.			
	Micro:	USES CAVITIES, SNAGS, LOGS & ROCKY AREAS FOR COVER & DENNING. NEEDS LARGE AREAS OF MATURE, DENSE FOREST.			

Occurrence No.	22	**Map Index:** 14211	**EO Index:** 23709	**Element Last Seen:**	1984-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1984-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2010-04-14

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.05150 / -120.11798	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4326445 E749399	**Elevation (ft):**	6230
PLSS:	T14N, R17E, Sec. 20 (M)	**Acres:**	147.0

Location: HWY 89 WITHIN 0.5 MI OF GENERAL CREEK RANGER STATION, E SHORE OF LAKE TAHOE BETWEEN SUGAR PINE POINT & MEEKS BAY.

Detailed Location: LOCATION DESCRIBED AS "T14N R17E S20, CROSSING ROAD BY DAY-USE ENTRANCE OF PARK, WEST SHORE OF LAKE TAHOE." MAPPED TO HWY 89 WITHIN 0.5 MI OF GENERAL CREEK STATION, MAJORITY OF WHICH LIES IN SECTION 20.

Ecological: MIXED CONIFER FOREST.

General: FISHER OBSERVED CROSSING THE ROAD BY RETIRED RANGER J. STEWART DURING SUMMER OF 1983/84; REPORTED BY RANGER KEN FLOHERSTON, AS CITED IN THE BURKETT DATABASE. ALSO CITED IN THE 1987-DFG DATABASE.

Owner/Manager: DPR-SUGAR PINE POINT SP

Occurrence No.	81	**Map Index:** 13985	**EO Index:** 23646	**Element Last Seen:**	1972-09-01
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1972-09-01
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2010-04-14

Quad Summary: Homewood (3912012)

County Summary: Placer

Lat/Long:	39.07351 / -120.21603	**Accurracy:**	1 mile
UTM:	Zone-10 N4328623 E740839	**Elevation (ft):**	7800
PLSS:	T14N, R16E, Sec. 09 (M)	**Acres:**	0.0

Location: HEAD OF BLACKWOOD CREEK BETWEEN ELLIS PEAK & BARKER PEAK, ABOUT 4 MI WEST OF CHAMBERS LODGE (TOWN), W OF LAKE TAHOE.

Detailed Location: LOCATION DESCRIBED AS "T14N R16E S9, HEAD OF BLACKWOOD CREEK ONE MILE NW OF ELLIS PEAK." MAPPED TO ENCOMPASS HEAD OF BLACKWOOD CRK & MIDDLE FK BLACKWOOD CRK, ALL OF SECTION 9, AND THE POINT 1 MI NW OF ELLIS PEAK.

Ecological: LODGEPOLE PINE FOREST.

General: FISHER OBSERVED ON 1 SEP 1972; REPORTED TO SCHEMPF (SCH, UCB) BY TAHOE NATIONAL FOREST, AND ALSO CITED BY BUR & DFG.

Owner/Manager: USFS-TAHOE NF

Gulo gulo **Element Code:** AMAJF03010

California wolverine

Listing Status:	**Federal:**	Candidate	**CNDDB Element Ranks:**	**Global:**	G4
	State:	Threatened		**State:**	S1
	Other:	DFG_FP-Fully Protected, IUCN_NT-Near Threatened, USFS_S-Sensitive			
Habitat:	**General:**	FOUND IN THE NORTH COAST MOUNTAINS AND THE SIERRA NEVADA. FOUND IN A WIDE VARIETY OF HIGH ELEVATION HABITATS.			
	Micro:	NEEDS WATER SOURCE. USES CAVES, LOGS, BURROWS FOR COVER & DEN AREA. HUNTS IN MORE OPEN AREAS. CAN TRAVEL LONG DISTANCES			

Occurrence No.	81	**Map Index:**	14024	**EO Index:**	23296	**Element Last Seen:**	1953-07-22
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1953-07-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1989-08-10

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.20766 / -120.20173	**Accurracy:**	1 mile
UTM:	Zone-10 N4343552 E741616	**Elevation (ft):**	6150
PLSS:	T15N, R16E, Sec. 28 (M)	**Acres:**	0.0

Location: 0.25 MI INSIDE ENTRANCE TO SQUAW VALLEY.

Detailed Location:

Ecological:

General: ONE OBSERVATION.

Owner/Manager: UNKNOWN

Fen **Element Code:** CTT51200CA

Fen

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S1.2
	Other:				
Habitat:	**General:**				
	Micro:				

Occurrence No.	5	**Map Index:** 14209	**EO Index:** 16162	**Element Last Seen:**	1988-07-28
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1988-07-28
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	1998-07-16

Quad Summary: Meeks Bay (3912011)

County Summary: El Dorado

Lat/Long:	39.05157 / -120.11981	**Accurracy:**	specific area
UTM:	Zone-10 N4326448 E749241	**Elevation (ft):**	6240
PLSS:	T14N, R17E, Sec. 20 (M)	**Acres:**	14.4

Location: ADJACENT TO GENERAL CREEK, SUGAR PINE POINT STATE PARK, LAKE TAHOE.

Detailed Location: AULACOMNIUM PALUSTRE PART OF SPONGY TURF.

Ecological: DIVERSE SPECIES OCCURRING IN WET AREA UNDER POPULUS TREMULOIDES & PINUS CONTORTA MURRAYANA SPP INCL DROSERA ROTUNDIFOLIA, ERIOPHYLLUM GRACILE, VERATRUM CALIFORNICUM, HABENARIA DILATATA, LILIUM PARVUM, GRASSES, SEDGE & OTHERS.

General: SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.

Owner/Manager: DPR-SUGAR PINE POINT SP

Capnia lacustra **Element Code:** IIPLE03200

Lake Tahoe benthic stonefly

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1
	State:	None		**State:**	S1
	Other:				
Habitat:	**General:**	ENDEMIC TO LAKE TAHOE. FOUND AT DEPTHS OF 95-400 FT.			
	Micro:	ASSOCIATED WITH DEEPWATER PLANT COMMUNITIES OF ALGAE, MOSSES & LIVERWORTS.			

Occurrence No.	1	**Map Index:**	14203	**EO Index:**	13170	**Element Last Seen:**	1962-07-11
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1962-07-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-09-19

Quad Summary: South Lake Tahoe (3811988), Emerald Bay (3812081), Meeks Bay (3912011), Homewood (3912012), Kings Beach (3912021), Tahoe City (3912022)

County Summary: El Dorado, Placer, Nevada State

Lat/Long:	39.08808 / -120.05657	**Accurracy:**	specific area
UTM:	Zone-10 N4330676 E754583	**Elevation (ft):**	6250
PLSS:	T99X, R99X (M)	**Acres:**	85656.7

Location: LAKE TAHOE.

Detailed Location: ENDEMIC TO LAKE TAHOE.

Ecological: UNIQUE AMONG STONEFLIES IN HAVING AN ADULT AQUATIC STAGE; SPENDS ITS ENTIRE LIFE AT DEPTHS OF 100-400 FT, SEEMINGLY ASSOCIATED WITH DEEPWATER (>200 FT) PLANT BEDS.

General: LAKE TAHOE HAS 123,300 SURFACE ACRES.

Owner/Manager: STATE

Helisoma newberryi **Element Code:** IMGASM6020

Great Basin rams-horn

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G1Q
	State:	None		**State:**	S1
	Other:	USFS_S-Sensitive			
Habitat:	**General:**	LARGER LAKES & SLOW RIVERS, INCLUDING LARGER SPRING SOURCES & SPRING-FED CREEKS.			
	Micro:	SNAILS BURROW IN SOFT MUD.			

Occurrence No.	4	**Map Index:** 14203	**EO Index:** 57934	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2004-11-05

Quad Summary: South Lake Tahoe (3811988), Emerald Bay (3812081), Meeks Bay (3912011), Homewood (3912012), Kings Beach (3912021), Tahoe City (3912022)

County Summary: El Dorado, Placer, Nevada State

Lat/Long:	39.08808 / -120.05657	**Accurracy:**	specific area
UTM:	Zone-10 N4330676 E754583	**Elevation (ft):**	6250
PLSS:	T99X, R99X (M)	**Acres:**	85656.7

Location: LAKE TAHOE.

Detailed Location:

Ecological: ACCORDING TO TAYLOR (1981), THE SNAILS LIVE IN LARGER LAKES AND SLOW RIVERS, INCLUDING LARGER SPRING SOURCES AND SPRING-FED CREEKS. THEY CHARACTERISTICALLY BURROW IN SOFT MUD AND MAY BE INVISIBLE EVEN WHEN ABUNDANT.

General: NO ADDITIONAL INFORMATION GIVEN.

Owner/Manager: STATE

Arabis rigidissima var. demota

Element Code: PDBRA061R1

Galena Creek rock-cress

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3T2Q
	State:	None		**State:**	S1.2
	Other:	Rare Plant Rank - 1B.2, USFS_S-Sensitive			
Habitat:	**General:**	BROADLEAVED UPLAND FOREST, UPPER MONTANE CONIFEROUS FOREST.			
	Micro:	WELL-DRAINED, STONY SOIL UNDERLAIN BY BASIC VOLCANIC ROCK. 2255-2560M.			

Occurrence No.	1	**Map Index:**	30487	**EO Index:**	3992	**Element Last Seen:**	1990-08-01
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-08-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-02-02

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.27387 / -120.04170	**Accurracy:**	specific area
UTM:	Zone-10 N4351341 E755196	**Elevation (ft):**	7500
PLSS:	T17N, R17E, Sec. 36 (M)	**Acres:**	2.4

Location: ON THE NORTH SHORE OF LAKE TAHOE ON THE CALIFORNIA SIDE, APPROXIMATELY 1 MILE SOUTHEAST OF MARTIS PEAK.

Detailed Location: PORTIONS OF THE POPULATION ARE ON AN OLD SKID TRAIL.

Ecological: ASSOCIATED WITH ABIES MAGNIFICA, PINUS MONTICOLA, POPULUS TREMULOIDES, VERATRUM CALIFORNICUM, RIBES, MIMULUS GUTTATUS, MONARDELLA, ACHILLEA MILLEFOLIUM AND DESCURAINIA RICHARDSONII. WELL-DRAINED STONY SOIL, UNDERLAIN BY VOLCANIC ROCK.

General: 500 INDIVIDUALS OBSERVED IN 1990. KUNDERT REPORTS THAT NO LOGGING WILL TAKE PLACE IN THE VICINITY OF THE PLANTS, MAINTAINING A 200 FOOT BUFFER. THE PLANT POPULATION WILL BE CLEARLY RIBBONED TO DEFINE THE AREA.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	2	**Map Index:**	30486	**EO Index:**	3993	**Element Last Seen:**	1992-07-07
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-07-07
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-12-15

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.29123 / -120.02635	**Accurracy:**	80 meters
UTM:	Zone-10 N4353312 E756457	**Elevation (ft):**	8400
PLSS:	T17N, R18E, Sec. 31 (M)	**Acres:**	0.0

Location: ON THE NORTH SHORE OF LAKE TAHOE ON THE CALIFORNIA SIDE, APPROXIMATELY AN EIGHTH OF A MILE EAST OF MARTIS PEAK.

Detailed Location: PLANTS ARE LOCATED ALONG AN OLD LOGGING ROAD THAT HAS BEEN WATERBARRED.

Ecological: ASSOCIATED WITH ABIES MAGNIFICA, MONARDELLA ODORATISSIMA, CHIMAPHILA SP. AND PHACELIA SP. UMPA SERIES OF WELL-DRAINED SOILS, 20-40 INCHES DEEP OVER ANDESITE. ON 5% SLOPE, WEST ASPECT.

General: 50 PLANTS OBSERVED IN 1990. POPULATION IS 100 FEET OUTSIDE OF A COMMERCIAL TIMBER SALVAGE SALE. THE PLANTS WILL BE CLEARLY DESIGNATED AND NO LOGGING ACTIVITY WILL BE PERMITTED IN THIS AREA.

Owner/Manager: USFS-LAKE TAHOE BMU

Rorippa subumbellata

Element Code: PDBRA270M0

Tahoe yellow cress

Listing Status:	**Federal:**	Candidate	**CNDDB Element Ranks:**	**Global:**	G1
	State:	Endangered		**State:**	S1
	Other:	Rare Plant Rank - 1B.1, USFS_S-Sensitive			

Habitat:	**General:**	LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.
	Micro:	SANDY BEACHES, ON LAKESIDE MARGINS AND IN RIPARIAN COMMUNITIES; ON DECOMPOSED GRANITE SAND. 1885-1900(2395)M.

Occurrence No.	16	**Map Index:**	14228	**EO Index:**	3426	**Element Last Seen:**	2000-XX-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-03-17

Quad Summary:	Emerald Bay (3812081), Meeks Bay (3912011)
County Summary:	El Dorado

Lat/Long:	39.00159 / -120.10327	**Accurracy:**	specific area
UTM:	Zone-10 N4320946 E750849	**Elevation (ft):**	6230
PLSS:	T13N, R17E, Sec. 04 (M)	**Acres:**	7.5

Location:	SOUTH END OF RUBICON BAY, NORTHERN BOUNDARY OF D.L. BLISS STATE PARK, LAKE TAHOE.
Detailed Location:	NORTHERN COLONY IS 200 FEET FROM LAKE EDGE AND JUST NORTH OF THE NORTHERN BOUNDARY OF D.L. BLISS STATE PARK. SOUTHERN COLONY IS A TRANSPLANT SITE JUST INSIDE THE PARK BOUNDARY AT LESTER BEACH, ADJACENT TO THE DAY USE PARKING AREA.
Ecological:	ON DECOMPOSED GRANITE BEACH WITH PHACELIA HASTATA SSP. COMPACTA ON FLAT GROUND. ADJACENT TO WILLOW THICKET WITH A JUNCUS "TURF" AT THE BASE.
General:	N COLONY: NONE SEEN IN 1979, 19 IN 1981, 45 IN 1982, 55 IN 1983, 161 IN 1986, 182 IN 1988, 35 IN 1990, UNKNOWN NUMBER SEEN IN 1993 AND 1994. NONE FOUND IN 1998, 1999, OR 2000. S COLONY: 832 IN 1990, UNKNOWN NUMBER SEEN EVERY YEAR 1994-2000.
Owner/Manager:	PVT IN USFS-LAKE TAHOE BMU,DPR

Occurrence No.	17	**Map Index:**	14204	**EO Index:**	3427	**Element Last Seen:**	2000-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Introduced Back into Native Hab./Range			**Trend:**	Unknown	**Record Last Updated:**	2008-03-17

Quad Summary:	Meeks Bay (3912011)
County Summary:	El Dorado

Lat/Long:	39.04036 / -120.12136	**Accurracy:**	specific area
UTM:	Zone-10 N4325199 E749146	**Elevation (ft):**	6229
PLSS:	T14N, R17E, Sec. 20 (M)	**Acres:**	14.2

Location:	GABION REVETMENT NORTH OF MEEKS CREEK ON MEEKS BAY, LAKE TAHOE.
Detailed Location:	TWO NATURAL (NOW EXTIRPATED) COLONIES AND ONE INTRODUCED COLONY MAPPED HERE. NATURAL COLONIES MAPPED IN THE SE 1/4 OF SECTION 20; THE INTRODUCED COLONY IS WITHIN THE NE 1/4 OF SECTION 29.
Ecological:	ON ROCKY, DECOMPOSED GRANITE BEACH WITH LOTUS OBLONGIFOLIA, GRASSES, AND JUNCUS.
General:	SITE FENCED IN 1981; 181 PLANTS PRESENT. NONE SEEN 1982-1986, SITE INUNDATED; PLANTS EXTIRPATED FROM SITE (FERREIRA 1986). 500 PLANTS TRANSPLANTED IN 1987: 278 SEEN IN 1990, 166 IN 1991, <10 IN 1997, 8 IN 1999, UNKNOWN NUMBER SEEN IN 2000.
Owner/Manager:	USFS-LAKE TAHOE BMU

Occurrence No.	18	**Map Index:**	14198	**EO Index:**	13187	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-02-29

Quad Summary: Meeks Bay (3912011), Homewood (3912012)

County Summary: El Dorado, Placer

Lat/Long:	39.06790 / -120.12705	**Accurracy:**	specific area
UTM:	Zone-10 N4328241 E748557	**Elevation (ft):**	6229
PLSS:	T14N, R17E, Sec. 08 (M)	**Acres:**	13.3

Location: TAHOMA, ON SMALL PRIVATE BEACHES ABOUT 0.1 MILE NORTHWEST PLACER / EL DORADO COUNTY LINE.

Detailed Location: ADJACENT TO CONCRETE WALKWAY.

Ecological: WHITE, SANDY, DECOMPOSED GRANITE BEACH.

General: 2 PLANTS SEEN IN 1979, ONLY 1 PLANT SEEN IN 1981. UNKNOWN NUMBER OF PLANTS FOUND IN 1980, 1993 AND 1994. NO PLANTS OBSERVED DURING SURVEYS IN 1982, 1983, 1986, 1988, 1990, 1995, 1996, 1997, 1998, 1999, OR 2000.

Owner/Manager: PVT

Occurrence No.	19	**Map Index:**	14115	**EO Index:**	25919	**Element Last Seen:**	2004-08-14
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2004-08-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-03-17

Quad Summary: Homewood (3912012)

County Summary: Placer

Lat/Long:	39.10719 / -120.15889	**Accurracy:**	specific area
UTM:	Zone-10 N4332515 E745665	**Elevation (ft):**	6229
PLSS:	T15N, R16E, Sec. 36 (M)	**Acres:**	9.8

Location: MOUTH OF BLACKWOOD CREEK AND JUST SOUTH OF THE KASPIAN PICNIC AREA, IDLEWILD, LAKE TAHOE.

Detailed Location: TWO COLONIES. NORTHERN COLONY IS NEAR KASPIAN PICNIC AREA. SOUTHERN COLONY IS ON BOTH SIDES OF THE MOUTH OF BLACKWOOD CREEK.

Ecological: ON DECOMPOSED GRANITE SAND. ASSOCIATED WITH PHACELIA FRIGIDA, EPILOBIUM GLANDULOSUM, MIMULUS PRIMULOIDES, POLYGONUM, TRIFOLIUM, LEPIDIUM, SALIX, GRASSES, AND RUSHES.

General: S COLONY: 35 PLANTS IN 1979, 103 IN 1980, 107 IN 1981, 208 IN 1982, 459 IN 1983, 1270 IN 1986, 669 IN 1988, 965 IN 1990, ALSO FOUND 1993, 1994, 1997, 1998, 1999, 2000, AND 2004; NOT FOUND 1995 OR 1996. 11 AT N COLONY IN 1991, NONE IN 1997.

Owner/Manager: PLA COUNTY, PVT

Occurrence No.	20	**Map Index:**	14324	**EO Index:**	13408	**Element Last Seen:**	1949-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-03-03

Quad Summary: Kings Beach (3912021)

County Summary: Placer

Lat/Long:	39.23425 / -120.02056	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4347003 E757165	**Elevation (ft):**	6230
PLSS:	T16N, R17E, Sec. 13 (M)	**Acres:**	216.8

Location: MARSH BETWEEN SANDY BEACH AND AGATE BAY, NORTH END OF LAKE TAHOE.

Detailed Location: EXACT LOCATION UNKNOWN; MAPPED AS A NON-SPECIFIC POLYGON ALONG THE NORTH SHORE OF LAKE TAHOE, BETWEEN FLICK POINT AND BROCKWAY.

Ecological: MARSH.

General: RORIPPA SUBUMBELLATA LAST SEEN HERE IN 1949 BY NOBS AND SMITH. VICINITY HAS BEEN SEARCHED SEVERAL TIMES BETWEEN 1979 AND 2000 BUT NO PLANTS FOUND. PROPERTY OWNER (JANE LILLY-HERSHEY) INTERESTED IN HAVING PLANTS REINTRODUCED AT THIS SITE.

Owner/Manager: UNKNOWN

Occurrence No.	21	**Map Index:**	14127	**EO Index:**	3106	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-10-08

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.12919 / -120.15620	**Accurracy:**	80 meters
UTM:	Zone-10 N4334964 E745822	**Elevation (ft):**	6230
PLSS:	T15N, R16E, Sec. 24 (M)	**Acres:**	0.0

Location: SOUTHWEST SIDE MOUTH OF WARD CREEK, APPROXIMATELY 1 MILE SOUTH OF SUNNYSIDE, LAKE TAHOE.

Detailed Location:

Ecological: SCATTERED ON GRAVELLY SAND AND GRAVEL/DECOMPOSED GRANITE. ASSOCIATED WITH GRASSES AND WEEDY SPECIES SUCH AS VERBASCUM.

General: 50 PLANTS SEEN IN 1979, 136 SEEN IN 1980, 20 IN 1981, 9 IN 1982, 121 IN 1983, 285 IN 1986, 186 IN 1988, 172 IN 1990, UNKNOWN NUMBER IN SEEN IN 1993 AND 1994. NONE FOUND IN 1995, 1996, 1998, 1999, OR 2000 SURVEYS.

Owner/Manager: PVT IN USFS-LAKE TAHOE BMU

Occurrence No.	22	**Map Index:**	42494	**EO Index:**	42494	**Element Last Seen:**	18XX-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1981-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-03-02

Quad Summary: Truckee (3912032)

County Summary: Nevada, Placer

Lat/Long:	39.33030 / -120.17954	**Accurracy:**	1 mile
UTM:	Zone-10 N4357225 E743108	**Elevation (ft):**	6500
PLSS:	T17N, R16E, Sec. 11 (M)	**Acres:**	0.0

Location: TRUCKEE.

Detailed Location: EXACT LOCATION NOT KNOWN; MAPPED TO INCLUDE GENERAL VICINITY OF TRUCKEE.

Ecological:

General: MAIN SOURCE OF INFORMATION FOR THIS SITE IS 1800'S COLLECTION CITED BY BAAD IN 1979 STATUS REPORT FOR RORIPPA SUBUMBELLATA. AREA SEARCHED IN 1981 BY FERREIRA BUT NO PLANTS OBSERVED.

Owner/Manager: UNKNOWN

Occurrence No.	28	**Map Index:**	30484	**EO Index:**	3999	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-02-29

Quad Summary: Homewood (3912012)

County Summary: Placer

Lat/Long:	39.07308 / -120.14052	**Accurracy:**	80 meters
UTM:	Zone-10 N4328779 E747373	**Elevation (ft):**	6230
PLSS:	T14N, R17E, Sec. 07 (M)	**Acres:**	0.0

Location: MOUTH OF MCKINNEY CREEK, CHAMBERS LODGE, LAKE TAHOE.

Detailed Location: ON BOTH SIDES OF THE MOUTH OF THE CREEK. FOUND IN AMONG ROCKS ON THE NORTH BANK OF THE MOUTH OF THE CREEK, AND BETWEEN WILLOWS ON HIGHER GROUND ON THE SOUTH BANK.

Ecological:

General: 19 PLANTS OBSERVED IN 1990. UNKNOWN NUMBER OBSERVED IN 1989, 1993, AND 1994. NO PLANTS FOUND IN 1981, 1995, 1996, 1997, 1998, 1999, OR 2000 SURVEYS.

Owner/Manager: PVT

Occurrence No.	29	**Map Index:**	30485	**EO Index:**	4000	**Element Last Seen:**	1993-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-03-03

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.15297 / -120.14374	**Accurracy:**	specific area
UTM:	Zone-10 N4337638 E746816	**Elevation (ft):**	6230
PLSS:	T15N, R17E, Sec. 18 (M)	**Acres:**	32.2

Location: BETWEEN SUNNYSIDE AND TAHOE CITY ON THE NORTHWEST SHORE OF LAKE TAHOE.

Detailed Location: MAPPED ALONG THE SHORE AND WITHIN THE NE 1/4 OF THE NW 1/4 OF SECTION 18 AND THE SE 1/4 OF THE SW 1/4 OF SECTION 17.

Ecological:

General: PLANTS APPARENTLY OBSERVED HERE BETWEEN 1989-1991 BY SHAFFER. PLANTS ABSENT DURING SURVEYS IN 1979-1981, 1990; PRESENT IN 1993; ABSENT IN 1994-2000. NO BEACH PRESENT IN 1999.

Owner/Manager: UNKNOWN

Occurrence No.	30	**Map Index:**	43911	**EO Index:**	43911	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1999-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-09-27

Quad Summary: Homewood (3912012)

County Summary: Placer

Lat/Long:	39.09677 / -120.16403	**Accurracy:**	1/10 mile
UTM:	Zone-10 N4331345 E745257	**Elevation (ft):**	6230
PLSS:	T14N, R16E, Sec. 01 (M)	**Acres:**	0.0

Location: CHERRY STREET, ABOUT 0.8 MILE SOUTH OF BLACKWOOD CREEK ON HIGHWAY 89, LAKE TAHOE.

Detailed Location: ON NARROW COBBLE/SAND BEACH.

Ecological:

General: PLANTS SEEN IN 1990-1994, NOT SEEN 1995-2000.

Owner/Manager: UNKNOWN

Occurrence No.	31	**Map Index:**	43912	**EO Index:**	43912	**Element Last Seen:**	1994-XX-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1999-09-01
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-09-27

Quad Summary: Kings Beach (3912021)

County Summary: Placer

Lat/Long:	39.18651 / -120.09533	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4341494 E750880	**Elevation (ft):**	6230
PLSS:	T16N, R17E, Sec. 33 (M)	**Acres:**	0.0

Location: DOLLAR POINT, LAKE TAHOE.

Detailed Location:

Ecological:

General: PLANTS SEEN IN 1993-1994, NOT SEEN 1995-2000.

Owner/Manager: UNKNOWN

Occurrence No.	33	**Map Index:**	70991	**EO Index:**	71909	**Element Last Seen:**	1993-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2000-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-03-05

Quad Summary:	Meeks Bay (3912011)
County Summary:	El Dorado

Lat/Long:	39.03135 / -120.11600	**Accurracy:**	80 meters
UTM:	Zone-10 N4324214 E749641	**Elevation (ft):**	6225
PLSS:	T14N, R17E, Sec. 29 (M)	**Acres:**	0.0

Location:	MEEKS BAY VISTA, SOUTH OF MEEKS BAY, LAKE TAHOE.
Detailed Location:	ABOUT 100 FEET SOUTH OF THE MEEKS BAY VISTA / RUBICON BAY PROPERTY LINE.
Ecological:	ON A WHITE SAND POCKET BEACH.
General:	15 PLANTS OBSERVED IN 1980 AND 1981. UNKNOWN NUMBER ALSO SEEN IN 1993. NO PLANTS WERE FOUND DURING SURVEYS IN 1982, 1983, 1986, 1990, 1994, 1998, AND 2000.
Owner/Manager:	PVT

Scutellaria galericulata **Element Code:** PDLAM1U0J0

marsh skullcap

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S2.2?
	Other:	Rare Plant Rank - 2.2			
Habitat:	**General:**	MARSHES AND SWAMPS, LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.			
	Micro:	SWAMPS AND WET PLACES. 0-2100M.			

Occurrence No.	10	**Map Index:**	43332	**EO Index:**	43332	**Element Last Seen:**	1998-08-05
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1998-08-05
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-01-05

Quad Summary: Homewood (3912012)

County Summary: El Dorado

Lat/Long:	39.03576 / -120.12891	**Accurracy:**	80 meters
UTM:	Zone-10 N4324668 E748509	**Elevation (ft):**	6220
PLSS:	T14N, R17E, Sec. 29 (M)	**Acres:**	0.0

Location: MEEKS CREEK, ABOUT 1.4 MILES SOUTH OF GENERAL CREEK CAMPGROUND, ABOUT 0.4 MILE WEST OF MEEKS BAY, LAKE TAHOE.

Detailed Location: LARGE MEADOW ON THE NORTH SIDE OF MEEKS CREEK, NEAR THE MOUTH OF THE CREEK. MAPPED WITHIN THE NE 1/4 OF THE NW 1/4 OF SECTION 29 ACC TO A 1998 JANEWAY MAP. A 1956 DEDECKER COLLECTION FROM "NEAR MEEKS BAY" ALSO ATTRIBUTED TO THIS SITE.

Ecological: GROWING IN MUCKY SEDGE AREA; JUNCUS ORTHOPHYLLUS AND CAREX ANGUSTATA ARE PRESENT WITH GREATER THAN 10% COVER.

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 1998 - THE WHOLE MEADOW WAS NOT SEARCHED, BUT CRISS-CROSSED WHILE CREATING A PLANT LIST. ONLY A FEW SCUTELLARIA PLANTS WERE SEEN AND ONLY AT THIS LOCATION.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	20	**Map Index:**	42494	**EO Index:**	50866	**Element Last Seen:**	1885-07-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1885-07-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2003-04-04

Quad Summary: Truckee (3912032)

County Summary: Nevada, Placer

Lat/Long:	39.33030 / -120.17954	**Accurracy:**	1 mile
UTM:	Zone-10 N4357225 E743108	**Elevation (ft):**	
PLSS:	T17N, R16E, Sec. 11 (M)	**Acres:**	0.0

Location: TRUCKEE.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS IN THE GENERAL VICINITY OF TRUCKEE.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS AN 1885 COLLECTION BY SONNE. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Sphaeralcea munroana

Element Code: PDMAL140F0

Munro's desert mallow

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S1.2
	Other:	Rare Plant Rank - 2.2			
Habitat:	**General:**	GREAT BASIN SCRUB.			
	Micro:	2000M.			

Occurrence No.	1	**Map Index:** 43451	**EO Index:** 43451	**Element Last Seen:**	1922-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1922-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2000-08-15

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.20108 / -120.22127	**Accurracy:**	1 mile
UTM:	Zone-10 N4342770 E739951	**Elevation (ft):**	6500
PLSS:	T16N, R16E, Sec. 29 (M)	**Acres:**	0.0

Location: SQUAW CREEK, PLACER COUNTY.

Detailed Location: LOCATION VAGUE; MAPPED AS BEST GUESS BY CNDDB TO INCLUDE SLOPES AT ABOUT 6500 FEET ABOVE SQUAW CREEK; JEPSON MANUAL GIVES HABITAT AS "DRY, OPEN PLACES; ABOUT 2000 METERS (6500 FEET).

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1922 COLLECTION BY STACEY; NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Eriogonum umbellatum var. torreyanum

Element Code: PDPGN086U9

Donner Pass buckwheat

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5T2
	State:	None		**State:**	S2.2
	Other:	Rare Plant Rank - 1B.2, USFS_S-Sensitive			
Habitat:	**General:**	UPPER MONTANE CONIFEROUS FOREST, CHAPARRAL, MEADOWS.			
	Micro:	STEEP SLOPES AND RIDGETOPS; ROCKY, VOLCANIC SOILS; USUALLY IN BARE OR SPARSELY VEGETATED AREAS. 1840-2620M.			

Occurrence No.	1	**Map Index:**	13933	**EO Index:**	3529	**Element Last Seen:**	1992-08-XX
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1992-08-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1995-04-19

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.21631 / -120.24211	**Accurracy:**	specific area
UTM:	Zone-10 N4344405 E738100	**Elevation (ft):**	7800
PLSS:	T16N, R16E, Sec. 19 (M)	**Acres:**	41.2

Location: SOUTH AND EAST SLOPES OF SILVER CREEK IN UPPER REACHES OF SILVER CREEK AND SQUAW CREEK DRAINAGES.

Detailed Location: FOUR SUB-POPULATIONS MAPPED AT CNDDB. USFS POPULATION #17-7. KAN POPULATIONS #11, 12, 13, 14.

Ecological: PATCHY VEGETATION WITH SCATTERED HERBS, GRASSES, AND SHRUBS. ASSOCIATED WITH WYETHIA MOLLIS, MONARDELLA ODORATISSIMA, ARTEMISIA, CHRYSOTHAMNUS, BALSAMORHIZA, ARCTOSTAPHYLOS NEVADENSIS, SITANON, ERIOGONUM UMBELLATUM NEVADENSE, ET AL.

General: ABOUT 2000 PLANTS IN ONE COLONY ON 6 ACRES IN 1978. 6000+ PLANTS OBSERVED IN 4 COLONIES IN 1992. HYBRIDS OF ERIOGONUM UMBELLATUM TORREYANUM X E. URSINUM WERE OBSERVED AT THIS SITE.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	4	**Map Index:**	31043	**EO Index:**	3528	**Element Last Seen:**	1885-09-XX
Occ. Rank:	None			**Presence:**	Possibly Extirpated	**Site Last Seen:**	1991-09-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	1997-02-04

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.20950 / -120.20211	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4343755 E741577	**Elevation (ft):**	6080
PLSS:	T16N, R16E, Sec. 28 (M)	**Acres:**	0.0

Location: BANK OF SQUAW CREEK ON ROAD WEST OF LAKE TAHOE.

Detailed Location: MAPPED NEAR THE JUNCTION OF SQUAW CREEK AND HIGHWAY 89. USFS POPULATION #17-4.

Ecological:

General: REVEAL SUGGESTS THIS SITE WAS PROBABLY DESTROYED BY WIDENING HIGHWAY 89. WEST SIDE OF HIGHWAY 89 SEARCHED BY KAN IN 1991 BUT NO PLANTS OBSERVED.

Owner/Manager: UNKNOWN

Occurrence No.	20	**Map Index:**	42494	**EO Index:**	43379	**Element Last Seen:**	1885-09-27
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1885-09-27
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-08-08

Quad Summary: Truckee (3912032)

County Summary: Nevada, Placer

Lat/Long:	39.33030 / -120.17954	**Accurracy:**	1 mile
UTM:	Zone-10 N4357225 E743108	**Elevation (ft):**	6500
PLSS:	T17N, R16E, Sec. 11 (M)	**Acres:**	0.0

Location: TRUCKEE.

Detailed Location: EXACT LOCATION NOT KNOWN; MAPPED TO INCLUDE GENERAL VICINITY OF TRUCKEE.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1885 COLLECTION BY SONNE; NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Rhamnus alnifolia **Element Code:** PDRHA0C010

alder buckthorn

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S2.2
	Other:	Rare Plant Rank - 2.2			
Habitat:	**General:**	MEADOWS AND SEEPS, LOWER MONTANE CONIFEROUS FOREST, UPPER MONTANE CONIFEROUS FOREST, MONTANE RIPARIAN SCRUB.			
	Micro:	MESIC SITES. 1370-2130M.			

Occurrence No.	1	**Map Index:** 72073	**EO Index:** 73000	**Element Last Seen:**	1941-09-05
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1941-09-05
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2008-08-27

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.22414 / -120.20335	**Accurracy:**	2/5 mile
UTM:	Zone-10 N4345378 E741419	**Elevation (ft):**	6000
PLSS:	T16N, R16E, Sec. 21 (M)	**Acres:**	0.0

Location: ON STATE HWY 89, SILVER CREEK, 8 MI S OF TRUCKEE.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS WHERE SILVER CREEK INTERSECTS HWY 89.

Ecological: MOUNTED ON SAND BARS IN CREEK, FORMING DENSE THICKETS.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1941 ROOF COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	2	**Map Index:** 72074	**EO Index:** 73001	**Element Last Seen:**	1997-08-03
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1997-08-03
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2008-08-27

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.20479 / -120.19932	**Accurracy:**	2/5 mile
UTM:	Zone-10 N4343241 E741834	**Elevation (ft):**	6600
PLSS:	T16N, R16E, Sec. 28 (M)	**Acres:**	0.0

Location: CORNER OF HWY 89 AND SQUAW VALLEY RD, SQUAW VALLEY.

Detailed Location: MAPPED AT THE INTERSECTION OF HWY 89 AND SQUAW VALLEY RD. A 1939 MASON COLLECTION FROM "SQUAW VALLEY" ALSO ATTRIBUTED TO THIS SITE.

Ecological: DENSE STAND SURROUNDING PERMANENT SPRING ON HILLSIDE ABOVE WET MEADOW. OCCURRING OUTSIDE OF STAND OF ALNUS INCANA SSP. TENUIFOLIA GROWING WHERE SPRING SURFACES. LAYERING SHRUBS TO 1.5 METERS TALL.

General: SITE BASED ON A 1997 HRUSA & GLAZNER COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	3	**Map Index:**	72077	**EO Index:**	73003	**Element Last Seen:**	1937-09-04
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1937-09-04
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-08-28

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.18763 / -120.19970	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4341335 E741860	**Elevation (ft):**	6500
PLSS:	T16N, R16E, Sec. 33 (M)	**Acres:**	37.0

Location: 1 MI E OF DEER PARK, NW OF LAKE TAHOE.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED ALONG ALPINE MEADOWS RD APPROXIMATELY 1 MI E OF DEER PARK.

Ecological: ARID TRANSITION LIFE ZONE. ABIES CONCOLOR. SUN. BLACK LOAM. WET MEADOW.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1937 WOLF COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	4	**Map Index:**	72075	**EO Index:**	73005	**Element Last Seen:**	1903-07-13
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1903-07-13
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2008-08-27

Quad Summary: Truckee (3912032), Norden (3912033)

County Summary: Nevada, Placer

Lat/Long:	39.32323 / -120.23922	**Accurracy:**	1 mile
UTM:	Zone-10 N4356282 E737987	**Elevation (ft):**	
PLSS:	T17N, R16E, Sec. 18 (M)	**Acres:**	0.0

Location: LOWER END OF DONNER LAKE.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AROUND THE E END OF DONNER LAKE.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1903 HELLER COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Ivesia sericoleuca

Element Code: PDROS0X0K0

Plumas ivesia

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2G3
	State:	None		**State:**	S2S3
	Other:	Rare Plant Rank - 1B.2, BLM_S-Sensitive, USFS_S-Sensitive			
Habitat:	**General:**	GREAT BASIN SCRUB, LOWER MONTANE CONIFEROUS FOREST, MEADOWS, VERNAL POOLS.			
	Micro:	VERNALLY MESIC AREAS; USUALLY VOLCANIC SUBSTRATES. 1450-2000M.			

Occurrence No.	9	**Map Index:**	14161	**EO Index:**	13913	**Element Last Seen:**	1986-07-21
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-07-21
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-05-02

Quad Summary: Truckee (3912032)

County Summary: Nevada, Placer

Lat/Long:	39.31688 / -120.14813	**Accurracy:**	specific area
UTM:	Zone-10 N4355820 E745863	**Elevation (ft):**	5880
PLSS:	T17N, R16E, Sec. 13 (M)	**Acres:**	12.4

Location: ABOUT 2.5 MILES SOUTHEAST OF TRUCKEE ON HWY 267, SOUTH OF AIRPORT, WEST END OF MARTIS VALLEY.

Detailed Location: ON NORTH SIDE OF ROAD BY TRUCKEE AIRPORT ROAD. MAPPED WITHIN THE SW 1/4 OF THE SE 1/4 OF SECTION 13.

Ecological: ASSOCIATED WITH ARTEMISIA ARBUSCULA AND GRASSES. SOME PLANTS IN MUD FLATS WITH EVIDENCE OF SHEET EROSION.

General: ABOUT 1000 PLANTS. FRAGMENTED PART OF FORMER LARGE OCCURRENCE. B- OCCURRENCE RANK. TWO OLD COLLECTIONS BY SONNE (1886 AND 1888, BOTH #35302 JEPS) FROM MARTIS CREEK VALLEY ATTRIBUTED TO THIS SITE. OCCURRENCE #33 FORMERLY PART OF THIS SITE.

Owner/Manager: PVT

Occurrence No.	19	**Map Index:**	14178	**EO Index:**	19459	**Element Last Seen:**	1986-07-20
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1986-07-20
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-05-12

Quad Summary: Truckee (3912032)

County Summary: Nevada

Lat/Long:	39.34987 / -120.14581	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4359489 E745947	**Elevation (ft):**	5850
PLSS:	T17N, R16E, Sec. 01 (M)	**Acres:**	23.0

Location: NORTHEAST OF TRUCKEE, ALONG PROSSER VILLAGE ROAD, 0.5 MILE OFF OF THE SOUTH SIDE OF INTERSTATE 80.

Detailed Location: EXACT LOCATION UNKNOWN. PROSSER VILLAGE ROAD BRANCHES TO BECOME TRUCKEE AIRPORT ROAD AND FAIRWAY DRIVE. MAPPED AS BEST GUESS BY CNDDB ~0.5 RD MI SOUTH OF I-80 ALONG FAIRWAY DRIVE TO MATCH GIVEN T-R-S OF SE 1/4 OF SECTION 1.

Ecological: SAGEBRUSH FLAT WITH SCATTERED JEFFREY PINES. AREA HAS STANDING WATER DURING SPRING. ASSOCIATED WITH SQUIRRELTAIL GRASS, MADIA SP, NAVARRETIA SP, LUPINUS, AND HORKELIA FUSCA PARVIFLORA.

General: FEWER THAN 100 PLANTS OBSERVED IN 1986. 1963 HOWELL COLLECTION FROM "3 MILES NORTHEAST OF TRUCKEE" ALSO ATTRIBUTED TO THIS OCCURRENCE.

Owner/Manager: PVT IN USFS-TAHOE NF

Occurrence No.	27	**Map Index:**	14221	**EO Index:**	19452	**Element Last Seen:**	2009-06-08
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-06-08
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-05-12

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.30313 / -120.11432	**Accurracy:**	specific area
UTM:	Zone-10 N4354387 E748826	**Elevation (ft):**	5840
PLSS:	T17N, R17E, Sec. 20 (M)	**Acres:**	11.0

Location: NORTH SIDE OF HIGHWAY 267, ABOUT 0.75 AIR MI SOUTH OF MARTIS CREEK LAKE, EAST EDGE OF MARTIS VALLEY.

Detailed Location: EAST OF MARTIS CREEK, ON BOTH SIDES OF DIRT ROAD ENTERING WADDLE RANCH PROPERTY. MAPPED WITHIN THE S 1/2 OF SECTION 20.

Ecological: LOW SAGEBRUSH/DRY MEADOW AREA. ROCKY SOIL OF VOLCANIC ORIGIN. ASSOCIATED WITH ARTEMISIA ARBUSCULA, LUPINUS SPP., AND GRASSES.

General: ABOUT 300 PLANTS OBSERVED IN 1986. UNKNOWN NUMBER OBSERVED IN 2001. 50+ OBSERVED IN SE COLONY IN 2007. 2009 POPULATION #S: 15,000+ IN E COLONY, 1,500+ IN W COLONY, & 50-75 IN N COLONY. LAND IS IN A TRUST; NO DEVELOPMENT WILL OCCUR IN AREA.

Owner/Manager: US ARMY CORPS OF ENGINEERS

Occurrence No.	30	**Map Index:**	42845	**EO Index:**	42845	**Element Last Seen:**	1991-07-10
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-07-10
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-05-13

Quad Summary: Martis Peak (3912031)

County Summary: Nevada

Lat/Long:	39.36598 / -120.09314	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4361423 E750428	**Elevation (ft):**	5900
PLSS:	T18N, R17E, Sec. 33 (M)	**Acres:**	23.0

Location: GLENSHIRE SUBDIVISION, ABOUT 1 AIR MILE NORTHEAST OF UNION MILLS (SITE), EAST OF TRUCKEE.

Detailed Location: S COLONY: SE CORNER OF LOT AT 11242 DORCHESTER AND IN 5 ACRE LOT BACKING THE SAME ADDRESS. N COLONY: WHITEHORSE ROAD AND MARE COURT, THE MEADOWS. MAPPED WITHIN THE SE 1/4 OF THE NE 1/4 AND THE NW 1/4 OF THE SE 1/4 OF SECTION 33.

Ecological: S COLONY: REMNANT OF NATIVE POPULATION BORDERED BY ROAD AND LANDSCAPED GARDEN. N COLONY: LEVEL, ROCKY, PERENNIAL WET DRAW. ASSOCIATED WITH BALSAMORHIZA HOOKERII, DANTHONIA UNISPICATA, AND ANTENNARIA ROSEA. SSW ASPECT.

General: 1991: <50 PLANTS OBSERVED IN N COLONY, 40 PLANTS AT SE CORNER OF 11242 DORCHESTER, 40 PLANTS IN 5 ACRE LOT. CURRENT OWNER AT 11242 WILL RETAIN THIS COLONY; SITE WAS DISTURBED DURING CONSTRUCTION. INCLUDES FORMER OCCURRENCE #31.

Owner/Manager: PVT

Occurrence No.	32	**Map Index:**	42849	**EO Index:**	42849	**Element Last Seen:**	1990-06-23
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1990-06-23
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-05-13

Quad Summary: Truckee (3912032)

County Summary: Nevada

Lat/Long:	39.33576 / -120.16165	**Accurracy:**	specific area
UTM:	Zone-10 N4357879 E744631	**Elevation (ft):**	5870
PLSS:	T17N, R16E, Sec. 11 (M)	**Acres:**	2.7

Location: UPPER STOCKREST SPRINGS MEADOW, BTWN I-80 & GLENSHIRE DR, ABOUT 0.7 MI ESE OF TRUCKEE RANGER STATION, EAST OF TRUCKEE.

Detailed Location: AT FIBREBOARD UNDERCROSSING, JUST SOUTH OF POWERLINES AND JUST WEST OF OLYMPIC HEIGHTS DEVELOPMENT. MAPPED WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 11.

Ecological: FOUND IN A LARGE VERNAL POOL. IVESIA SERICOLEUCA IS THE DOMINANT PLANT; ASSOCIATES INCLUDE NAVARRETIA MINIMA, DOWNINGIA CUSPIDATA, PLAGIOBOTHRYS COGNATUS, PSILOCARPHUS SPP., AND JUNCUS SPP. SOME PLANTS GROWING IN ADJACENT SAGEBRUSH SCRUB.

General: 8000 PLANTS OBSERVED IN 1990. IDENTIFICATION WAS VERIFIED BY BARBARA ETTER. AS OF 1990, THIS IS THE MOST "SIGNIFICANT" POPULATION ON U.S. FOREST SERVICE LAND WITH REGARD TO SIZE AND VIGOR. INCLUDES FORMER EO #75.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	33	**Map Index:**	42850	**EO Index:**	42850	**Element Last Seen:**	2009-06-25
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2009-06-25
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-05-13

Quad Summary: Truckee (3912032)

County Summary: Placer

Lat/Long:	39.30584 / -120.13815	**Accurracy:**	specific area
UTM:	Zone-10 N4354622 E746762	**Elevation (ft):**	5880
PLSS:	T17N, R17E, Sec. 19 (M)	**Acres:**	24.0

Location: SOUTH SIDE OF HIGHWAY 267, SOUTH OF EAST END OF AIRPORT, ABOUT 3 ROAD MILES EAST OF TRUCKEE, WEST END OF MARTIS VALLEY.

Detailed Location: ON SOUTH SIDE OF HIGHWAY BY DIRT ROAD LEADING SOUTH TO JOERGER RANCH AND IN THE MARTIS CREEK LAKE NATIONAL RECREATIONAL AREA. TRAIL BISECTS ONE OF THE POPULATIONS.

Ecological: IN SAGEBRUSH SCRUB DOMINATED BY ARTEMISIA ARBUSCULA WHERE PURSHIA TRIDENTATA AND ARTEMISIA TRIDENTATA ARE ABSENT. ASSOC W/ BALSAMORHIZA HOOKERI, EREMOGONE CONGESTA VAR. CONGESTA, LUPINUS LEPIDUS VAR. CONFERTUS, CASTILLEJA PILOSA, ETC.

General: ABOUT 500 PLANTS OBSERVED IN 1990. ABOUT 196,000 PLANTS OBSERVED IN 2009.

Owner/Manager: US ARMY CORPS OF ENGINEERS

Occurrence No.	43	**Map Index:**	42870	**EO Index:**	42870	**Element Last Seen:**	1993-08-24
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	1993-08-24
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-05-03

Quad Summary: Truckee (3912032), Hobart Mills (3912042)

County Summary: Nevada

Lat/Long:	39.37527 / -120.17684	**Accurracy:**	specific area
UTM:	Zone-10 N4362224 E743185	**Elevation (ft):**	5800
PLSS:	T18N, R16E, Sec. 26 (M)	**Acres:**	16.5

Location: HIGHWAY 89 ABOUT 1.6 MILES SOUTH OF HOBART MILLS, JUST EAST OF DONNER CAMP PICNIC AREA, S OF PROSSER CREEK RESERVOIR.

Detailed Location: BETWEEN TRAIL AND SOUTHWEST ARM OF PROSSER CREEK RESERVOIR. MAPPED WITHIN THE SW 1/4 OF THE SW 1/4 OF SECTION 26.

Ecological: IN THE LESS DENSE GRASSY AREAS OF A SAGE FLAT. CLOSELY ASSOCIATED WTIH PINUS CONTORTA.

General: MORE THAN 1000 PLANTS OBSERVED IN 1993. IT WOULD BE DIFFICULT TO PREVENT PUBLIC ACCESS AT THIS SITE.

Owner/Manager: USFS-TAHOE NF

Occurrence No.	71	**Map Index:**	42972	**EO Index:**	42972	**Element Last Seen:**	1989-06-14
Occ. Rank:	Excellent			**Presence:**	Presumed Extant	**Site Last Seen:**	1989-06-14
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-05-17

Quad Summary: Martis Peak (3912031), Truckee (3912032)

County Summary: Nevada

Lat/Long:	39.34840 / -120.12792	**Accurracy:**	1/5 mile
UTM:	Zone-10 N4359375 E747494	**Elevation (ft):**	5830
PLSS:	T17N, R17E, Sec. 06 (M)	**Acres:**	0.0

Location: ABOUT 0.7 MILE NNE OF POLARIS, 0.7 MILE NORTH OF GLENSHIRE DRIVE ON OLD TRUCKEE AIRPORT ROAD, 3 MILES ENE OF TRUCKEE.

Detailed Location: MAPPED AT THE CENTER OF THE SE 1/4 OF SECTION 6.

Ecological: OPEN SAGEBRUSH.

General: ABOUT 5000 PLANTS OBSERVED IN 1989. A SETBACK ZONE AROUND THE POPULATION IS NEEDED, AND DRAINAGE ACROSS SITE SHOULD NOT BE IMPEDED.

Owner/Manager: PVT

Occurrence No.	72	**Map Index:**	43017	**EO Index:**	43017	**Element Last Seen:**	1991-XX-XX
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	1991-XX-XX
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2000-05-26

Quad Summary: Martis Peak (3912031)

County Summary: Nevada

Lat/Long:	39.35757 / -120.08816	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4360502 E750888	**Elevation (ft):**	
PLSS:	T17N, R17E, Sec. 04 (M)	**Acres:**	39.8

Location: SOUTH OF JUNIPER FLAT, ABOUT 1 MILE SOUTHWEST OF HIRSCHDALE, EAST EDGE OF MARTIS VALLEY.

Detailed Location: MAPPED WITHIN THE NE 1/4 OF THE NE 1/4 OF SECTION 4.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS TRS LISTING IN THE IVESIA INTERIM MANAGEMENT GUIDE (1992).

Owner/Manager: PVT

Occurrence No.	78	**Map Index:**	78855	**EO Index:**	79810	**Element Last Seen:**	2007-10-06
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2007-10-06
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2010-05-13

Quad Summary:	Martis Peak (3912031)
County Summary:	Placer

Lat/Long:	39.29655 / -120.12202	**Accurracy:**	80 meters
UTM:	Zone-10 N4353636 E748185	**Elevation (ft):**	5800
PLSS:	T17N, R17E, Sec. 29 (M)	**Acres:**	0.0

Location:	SOUTHEAST EDGE OF MARTIS CREEK VALLEY, ABOUT 1.75 AIR MILES ESE OF JOEGER RANCH.
Detailed Location:	JUST NORTH OF A GOLF COURSE IN THE SW 1/4 OF THE NW 1/4 OF SECTION 29.
Ecological:	TRANSITIONAL HABITAT BETWEEN LOW SAGE AND WET MEADOW HABITAT.
General:	2007: 50+ PLANTS TOTAL OBSERVED BETWEEN THIS OCCURRENCE AND EO #27.
Owner/Manager:	US ARMY CORPS OF ENGINEERS

Carex davyi **Element Code:** PMCYP033H0

Davy's sedge

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2
	State:	None		**State:**	S2
	Other:	Rare Plant Rank - 1B.3			
Habitat:	**General:**	SUBALPINE CONIFEROUS FOREST, UPPER MONTANE CONIFEROUS FOREST.			
	Micro:	1500-3200M.			

Occurrence No.	11	**Map Index:** 82343	**EO Index:** 83359	**Element Last Seen:**	2010-08-10
Occ. Rank:	Good		**Presence:** Presumed Extant	**Site Last Seen:**	2010-08-10
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2011-04-27

Quad Summary: Martis Peak (3912031)

County Summary: Placer

Lat/Long:	39.29145 / -120.01232	**Accurracy:**	80 meters
UTM:	Zone-10 N4353377 E757666	**Elevation (ft):**	8230
PLSS:	T17N, R18E, Sec. 31 (M)	**Acres:**	0.0

Location: EAST OF MARTIS PEAK; HEADWATERS OF JUNIPER CREEK, NEAR NEVADA STATE LINE.

Detailed Location: MAPPED BASED ON COORDINATES PROVIDED BY TAYLOR IN THE NW 1/4 SE 1/4 SECTION 31.

Ecological: ON MARGIN OF SEASONAL POND IN TSUGA MERTENSIANA-PINUS MONTICOLA FOREST. ON VOLCANIC SOIL OCCURRING AT BASE OF LARGE CIRQUE BASIN WITH NEARLY VERTICAL BRECCIA AND RHYOLITE CLIFFS.

General: 300 PLANTS SEEN IN 2010 BY TAYLOR. OCCURRENCE IS ENTIRELY WITHIN A WLPZ RESTRICTION AREA.

Owner/Manager: PVT-SIERRA PACIFIC

Occurrence No.	19	**Map Index:** 82441	**EO Index:** 83455	**Element Last Seen:**	1897-06-30
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1897-06-30
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2011-05-02

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.17834 / -120.19243	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4340323 E742520	**Elevation (ft):**	
PLSS:	T15N, R16E, Sec. 03 (M)	**Acres:**	126.0

Location: TRUCKEE RIVER BASIN.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS ALONG THE TRUCKEE RIVER TO INCLUDE APPROPRIATE HABITAT IN VICINITY OF DEER PARK INN BASED ON ANOTHER COLLECTION FROM DAVY (#3260) FROM THE SAME DATE COLLECTED "NEAR DEER PARK INN."

Ecological: IN MEADOWS BY RIVER.

General: TYPE LOCALITY. ONLY SOURCE OF INFORMATION IS AN 1897 DAVY COLLECTION. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Carex lasiocarpa **Element Code:** PMCYP03720

woolly-fruited sedge

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S1.3?
	Other:	Rare Plant Rank - 2.3			
Habitat:	**General:**	BOGS AND FENS, MARSHES AND SWAMPS.			
	Micro:	SPHAGNUM BOGS, FRESHWATER MARSH, AND PROBABLY OTHER MOSS-DOMINATED HABITATS AS WELL. 1800-2100M.			

Occurrence No.	11	**Map Index:**	75687	**EO Index:**	76712	**Element Last Seen:**	2002-07-11
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2002-07-11
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-06-30

Quad Summary:	Kings Beach (3912021)
County Summary:	Placer

Lat/Long:	39.24201 / -120.04265	**Accurracy:**	2/5 mile
UTM:	Zone-10 N4347802 E755229	**Elevation (ft):**	6300
PLSS:	T16N, R17E, Sec. 13 (M)	**Acres:**	0.0

Location:	SPRING NEAR AGATUM STREET, TAHOE VISTA.
Detailed Location:	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE VICINITY OF AGATUM AVENUE AND THE MEADOW AREA JUST TO THE NORTH.
Ecological:	
General:	ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2002 IMAGE TAKEN BY MATSON.
Owner/Manager:	UNKNOWN

Carex praticola **Element Code:** PMCYP03B20

northern meadow sedge

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S2S3
	Other:	Rare Plant Rank - 2.2			
Habitat:	**General:**	MEADOWS.			
	Micro:	MOIST TO WET MEADOWS. 0-3200M.			

Occurrence No.	12	**Map Index:** 71183	**EO Index:** 72097	**Element Last Seen:**	1999-08-23
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1999-08-23
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2008-04-24

Quad Summary: Homewood (3912012)

County Summary: Placer

Lat/Long:	39.08504 / -120.24228	**Accurracy:**	1/10 mile
UTM:	Zone-10 N4329834 E738528	**Elevation (ft):**	7800
PLSS:	T14N, R16E, Sec. 05 (M)	**Acres:**	0.0

Location: BARKER PASS, LAKE TAHOE BASIN.

Detailed Location: MAPPED BY CNDDB ACCORDING TO UTM'S (NO DATUM) PROVIDED BY KATHREN MURRELL, 0.6 TO 0.7 AIR MILES NW OF BARKER PASS.

Ecological: MEADOW.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 1999 COLLECTION BY MURRELL & HART FOR CEHR MEADOW ASSESSMENT. NEED TO VERIFY LOCATION INFORMATION.

Owner/Manager: USFS-LAKE TAHOE BMU

Juncus luciensis **Element Code:** PMJUN013J0

Santa Lucia dwarf rush

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G2G3
	State:	None		**State:**	S2S3
	Other:	Rare Plant Rank - 1B.2			
Habitat:	**General:**	VERNAL POOLS, MEADOWS, LOWER MONTANE CONIFEROUS FOREST, CHAPARRAL, GREAT BASIN SCRUB.			
	Micro:	VERNAL POOLS, EPHEMERAL DRAINAGES, WET MEADOW HABITATS AND STREAMSIDES. 300-2040M.			

Occurrence No.	14	**Map Index:**	75333	**EO Index:**	76233	**Element Last Seen:**	2005-06-26
Occ. Rank:	Unknown			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-06-26
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2009-05-29

Quad Summary: Martis Peak (3912031)

County Summary: Nevada

Lat/Long:	39.31774 / -120.12266	**Accurracy:**	80 meters
UTM:	Zone-10 N4355986 E748055	**Elevation (ft):**	5800
PLSS:	T17N, R17E, Sec. 17 (M)	**Acres:**	0.0

Location: 300 M S OF CAMPGROUND, W OF RESERVOIR; MARTIS VALLEY RECREATION AREA, MARTIS VALLEY, SE OF TRUCKEE.

Detailed Location: 300 M S OF ALPINE MEADOWS CAMPGROUND IN MARTIS CREEK LAKE NATIONAL RECREATION AREA, LAKE TAHOE NATIONAL FOREST. MAPPED USING COORDINATES FROM 2005 MATSON COLLECTION; DATUM UNKNOWN, MAPPED AROUND BOTH DATUMS.

Ecological: WETTER SITE WITH SAGEBRUSH BITTERBRUSH SCRUBLAND.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2005 MATSON COLLECTION.

Owner/Manager: USFS-TAHOE NF

Glyceria grandis **Element Code:** PMPOA2Y080

American manna grass

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S1.3?
	Other:	Rare Plant Rank - 2.3			
Habitat:	**General:**	MEADOWS.			
	Micro:	WET MEADOWS, DITCHES, STREAMS, AND PONDS IN VALLEYS AND LOWER ELEVATIONS IN THE MOUNTAINS. 15-1980M.			

Occurrence No.	5	**Map Index:** 80401	**EO Index:**	32147		**Element Last Seen:**	1934-08-07
Occ. Rank:	Unknown		**Presence:**	Presumed Extant		**Site Last Seen:**	1934-08-07
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown		**Record Last Updated:**	2010-10-18

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.21174 / -120.19885	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4344013 E741851	**Elevation (ft):**	6200
PLSS:	T16N, R16E, Sec. 28 (M)	**Acres:**	87.0

Location: TRUCKEE RIVER NEAR SQUAW CREEK, NORTHWEST OF TAHOE CITY.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB ALONG TRUCKEE RIVER IN VICINITY OF SQUAW CREEK.

Ecological: STANDING IN 15 TO 24 INCHES OF WATER; MARGINS OF RIVER.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1934 COLLECTION BY JEPSON. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No.	11	**Map Index:** 80404	**EO Index:**	81390		**Element Last Seen:**	2004-07-07
Occ. Rank:	Unknown		**Presence:**	Presumed Extant		**Site Last Seen:**	2004-07-07
Occ. Type:	Natural/Native occurrence		**Trend:**	Unknown		**Record Last Updated:**	2010-10-20

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.18825 / -120.19602	**Accurracy:**	nonspecific area
UTM:	Zone-10 N4341414 E742176	**Elevation (ft):**	6190
PLSS:	T16N, R16E, Sec. 34 (M)	**Acres:**	12.0

Location: TRUCKEE RIVER, ABOUT 200 M BELOW CONFLUENCE WITH BEAR CREEK, EAST SIDE OF RIVER DOWNSLOPE FROM BIKE PATH.

Detailed Location: MAPPED AS BEST GUESS BY CNDDB ACCORDING TO GIVEN LOCATION DESCRIPTION AND T-R-S OF 17N16E NW 1/4 OF SW 1/4 OF SECTION 34.

Ecological: EUTROPHIC WARM WATER 1 M DEEP. PARTIALLY SHADED BY ALNUS TENUIFOLIA PORTION OF A BEAVER POND.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2004 COLLECTION BY TAYLOR. NEEDS POPULATION INFORMATION.

Owner/Manager: UNKNOWN

Stuckenia filiformis

Element Code: PMPOT03090

slender-leaved pondweed

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S1S2
	Other:	Rare Plant Rank - 2.2			
Habitat:	**General:**	MARSHES AND SWAMPS.			
	Micro:	SHALLOW, CLEAR WATER OF LAKES AND DRAINAGE CHANNELS. 15-2310M.			

Occurrence No.	10	**Map Index:** 50807	**EO Index:** 50807	**Element Last Seen:**	1931-06-17
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	1931-06-17
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2003-03-27

Quad Summary: Marlette Lake (3911928), Kings Beach (3912021)

County Summary: Placer, Nevada State

Lat/Long:	39.22389 / -120.00353	**Accurracy:**	1 mile
UTM:	Zone-10 N4345901 E758673	**Elevation (ft):**	6300
PLSS:	T99X, R99X, Sec. UN (X)	**Acres:**	0.0

Location: CRYSTAL BAY, MINK HARBOR, LAKE TAHOE.

Detailed Location: EXACT LOCATION UNKNOWN; UNABLE TO LOCATE MINK HARBOR. MAPPED IN VICINITY OF CRYSTAL BAY.

Ecological: SHALLOW MARGIN OF LAKE.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1931 COLLECTION BY JEPSON. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Botrychium lunaria

Element Code: PPOPH01080

common moonwort

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G5
	State:	None		**State:**	S2?
	Other:	Rare Plant Rank - 2.3, USFS_S-Sensitive			
Habitat:	**General:**	MEADOWS, SUBALPINE CONIFEROUS FOREST, UPPER MONTANE CONIFEROUS FOREST.			
	Micro:	2760-3400M.			

Occurrence No.	5	**Map Index:** 64460	**EO Index:** 64539	**Element Last Seen:**	XXXX-XX-XX
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	XXXX-XX-XX
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2006-04-13

Quad Summary: Truckee (3912032), Norden (3912033), Hobart Mills (3912042), Independence Lake (3912043), Sardine Peak (3912052), Sierraville (3912053)

County Summary: Nevada, Sierra

Lat/Long:	39.42999 / -120.22998	**Accurracy:**	5 miles
UTM:	Zone-10 N4368157 E738419	**Elevation (ft):**	6400
PLSS:	T18N, R16E, Sec. 08 (M)	**Acres:**	0.0

Location: SAGEHEN CREEK, NORTH OF TRUCKEE.

Detailed Location: EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN GENERAL LOCATION OF SAGEHEN CREEK.

Ecological:

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A MENTION OF THIS SITE IN "THE FERNS AND SEED PLANTS OF NEVADA COUNTY" BY G. TRUE. NEEDS FIELDWORK.

Owner/Manager: USFS-TAHOE NF

Botrychium montanum **Element Code:** PPOPH010K0

western goblin

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S1.1
	Other:	Rare Plant Rank - 2.1, USFS_S-Sensitive			
Habitat:	**General:**	LOWER MONTANE CONIFEROUS FOREST.			
	Micro:	CREEKBANKS IN OLD-GROWTH FOREST. 1500-1830M.			

Occurrence No.	9	**Map Index:**	70427	**EO Index:**	71317	**Element Last Seen:**	2006-07-22
Occ. Rank:	Good			**Presence:**	Presumed Extant	**Site Last Seen:**	2006-07-22
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2007-11-16

Quad Summary:	Homewood (3912012)		
County Summary:	El Dorado		
Lat/Long:	39.02240 / -120.14859	**Accurracy:**	80 meters
UTM:	Zone-10 N4323132 E746851	**Elevation (ft):**	6550
PLSS:	T14N, R17E, Sec. 31 (M)	**Acres:**	0.0

Location: ALONG TRAIL NORTH OF MEEKS CREEK, 1.74 AIR MILES SW OF MEEKS BAY.

Detailed Location: PLANTS FOUND IN 3 SEPARATE CLUSTERS, ONE ALONG TRAIL AND THE OTHERS ABOUT 5 FEET IN.

Ecological: SE-FACING, GROWING IN PINE NEEDLES AT BANK OF A SMALL SPRING, RAISED ABOVE THE SPRING. ASSOC. W/CALOCEDRUS DECURRENS, ABIES CONCOLOR, RIBES NEVADENSE, BERATRUM CALIFORNICUM, LILIUM PARVUM.

General: 34 PLANTS OBSERVED IN 2006. SPRING AREA IS MUCKY PROBABLY DUE TO DOGS DRINKING FROM SPRING. B. MONTANUM FOUND RAISED UP FROM SPRING, SO IMPACT SHOULD BE LOW.

Owner/Manager: USFS-ELDORADO NF

Botrychium crenulatum **Element Code:** PPOPH010L0

scalloped moonwort

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G3
	State:	None		**State:**	S2.2
	Other:	Rare Plant Rank - 2.2, USFS_S-Sensitive			
Habitat:	**General:**	BOGS AND FENS, MEADOWS, LOWER MONTANE CONIFEROUS FOREST, FRESHWATER MARSH.			
	Micro:	MOIST MEADOWS, NEAR CREEKS. 1500-2670M.			

Occurrence No.	33	**Map Index:** 70334	**EO Index:** 71222	**Element Last Seen:**	2005-07-07
Occ. Rank:	Excellent		**Presence:** Presumed Extant	**Site Last Seen:**	2005-07-07
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2007-11-19

Quad Summary: Homewood (3912012)

County Summary: Placer

Lat/Long:	39.11142 / -120.19185	**Accurracy:**	80 meters
UTM:	Zone-10 N4332897 E742800	**Elevation (ft):**	8450
PLSS:	T15N, R16E, Sec. 27 (M)	**Acres:**	0.0

Location: TRIBUTARY OF BLACKWOOD CREEK, 1.5 AIR MILES W OF EAGLE ROCK NEAR LAKE TAHOE.

Detailed Location: DRIVE HWY 89 N TO BLACKWOOD CANYON (ACROSS FROM KASPIAN CAMPGROUND). DRIVE 1.8 MI FROM HWY UP BLACKWOOD CANYON RD (15N38) TO WHERE SMALL STANDS OF ASPEN ARE IN THE MEADOW ALONG THE DRAINAGE. WALK WNW UP DRAINAGE ABOUT 350 PACES.

Ecological: EDGE OF SHADY STREAMBANK WITH FLOWING WATER, GROWING OUT OF LEAF LITTER. WITH ALNUS SP., CORNUS SERICIA, ABIES CONCOLOR, BRACHYTHECIUM SP., LISTERIA CONVALLAROIDES, MARCHANTIA POLYMORPHA, AND PLATANTHERA SP.

General: 2 PLANTS OBSERVED IN 2004. 3 PLANTS OBSERVED IN 2005.

Owner/Manager: USFS-LAKE TAHOE BMU

Occurrence No.	41	**Map Index:** 70486	**EO Index:** 71379	**Element Last Seen:**	2004-06-29
Occ. Rank:	Unknown		**Presence:** Presumed Extant	**Site Last Seen:**	2004-06-29
Occ. Type:	Natural/Native occurrence		**Trend:** Unknown	**Record Last Updated:**	2007-11-19

Quad Summary: Tahoe City (3912022)

County Summary: Placer

Lat/Long:	39.13677 / -120.18345	**Accurracy:**	80 meters
UTM:	Zone-10 N4335732 E743439	**Elevation (ft):**	6500
PLSS:	T15N, R16E, Sec. 23 (M)	**Acres:**	0.0

Location: SOUTH SIDE OF WARD CREEK, 1.4 AIR MILES NE OF STANFORD ROCK, WSW OF SUNNYSIDE.

Detailed Location: MAPPED IN NE1/4 OF NW1/4 SEC 23.

Ecological:

General: UNKNOWN NUMBER OF PLANTS OBSERVED IN 2004. THIS OCCURRENCE IS SHOWN ON A MAP PROVIDED WITH A FIELD SURVEY FORM FOR OCCURRENCE #33; UNKNOWN IF ECOLOGICAL DATA IS THE SAME.

Owner/Manager: USFS-LAKE TAHOE BMU

Botrychium minganense **Element Code:** PPOPH010R0

mingan moonwort

Listing Status:	**Federal:**	None	**CNDDB Element Ranks:**	**Global:**	G4
	State:	None		**State:**	S1.2
	Other:	Rare Plant Rank - 2.2, USFS_S-Sensitive			
Habitat:	**General:**	LOWER MONTANE CONIFEROUS FOREST.			
	Micro:	CREEKBANKS IN MIXED CONIFER FOREST. 1500-2275M.			

Occurrence No.	17	**Map Index:**	64606	**EO Index:**	64685	**Element Last Seen:**	2005-08-03
Occ. Rank:	Fair			**Presence:**	Presumed Extant	**Site Last Seen:**	2005-08-03
Occ. Type:	Natural/Native occurrence			**Trend:**	Unknown	**Record Last Updated:**	2006-05-03

Quad Summary:	Martis Peak (3912031)
County Summary:	Placer

Lat/Long:	39.25348 / -120.02980	**Accurracy:**	80 meters
UTM:	Zone-10 N4349112 E756297	**Elevation (ft):**	6500
PLSS:	T16N, R17E, Sec. 12 (M)	**Acres:**	0.0

Location:	1 AIR MILE NNW OF KINGS BEACH. JUST SW OF THE RESERVOIR ALONG GRIFF CREEK.
Detailed Location:	WHERE GRIFF CREEK CROSSES THE SECTION LINE BETWEEN SECTIONS 12 AND 18. ON THE NW SIDE OF THE CREEK.
Ecological:	GROWING IN MOSS ON STREAMBANK IN THICK PATCH OF CORNUS SERICA, ALNUS INCANA, AND PTERIDIUM AQUILINUM.
General:	2 PLANTS OBSERVED IN 2005.
Owner/Manager:	USFS-TAHOE NF

Appendix B CNPS Inventory – Search Results

SCINAME	COM_NAME	FAMILY	CNPS_LIS	COUNTIES	NATCOMS	blooming_orig	ELEV_L	ELEV_H	NOTES
Arabis rigidissima var. demota	Galena Creek rock cress	Brassicaceae	List 1B.2	Placer (PLA), Nevada (NV)	Broadleafed upland forest, Upper montane coniferous forest/rocky	Aug	2255	2560	Known in CA from only two occurrences near Martis Pk., and in NV from eleven occurrences in the Carson Range. Threatened by logging. On watch list in NV. Not in The Jepson Manual. See Journal of the Arnold Arboretum 64:498 (1983) for original description.
Botrychium crenulatum	scalloped moonwort	Ophioglossaceae	List 2.2	Butte (BUT), Colusa (COL), Lake (LAK), Lassen (LAS), Los Angeles (LAX), Mono (MNO), Modoc (MOD), Placer (PLA), Plumas (PLU), San Bernardino (SBD), Shasta (SHA), Tehama (TEH), Tulare (TUL), Arizona (AZ), Idaho (ID), Nevada (NV), Oregon (OR), Utah (UT), Washington (WA), Wyoming (WY)+	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps(freshwater), Upper montane coniferous forest	Jun-Sep	1268	3280	Scattered but not common anywhere in CA. On watch list in NV, candidate for state listing in OR, and state-listed as Sensitive in WA. Threatened by foot traffic, grazing, trampling, recreational activities, and road deconstruction. See American Fern Journal 71(1):21 (1981) for original description, and Madroño 36(2):131-136 (1989) for distributional information.
Botrychium minganense	Mingan moonwort	Ophioglossaceae	List 2.2	Butte (BUT), Fresno (FRE), Lassen (LAS), Modoc (MOD), Placer (PLA), Plumas (PLU), San Bernardino (SBD), Shasta (SHA), Tehama (TEH), Trinity (TRI), Tulare (TUL), Arizona (AZ), Idaho (ID), Nevada (NV), Oregon (OR), Utah (UT), Washington (WA), (++)	Bogs and fens, Lower montane coniferous forest, Upper montane coniferous forest/mesic	Jul-Sep	1455	2055	Does plant occur in NEV Co.? Sensitive in ID, and endangered in OR. Threatened by grazing, trampling, fire, and habitat alteration. Possibly threatened by logging. See Bulletin of the Torrey Botanical Club 83(4):261-280 (1956) for comparison with B. lunaria, and Madroño 36(2):131-136 (1989) for CA records.
Botrychium montanum	western goblin	Ophioglossaceae	List 2.1	Butte (BUT), El Dorado (ELD), Fresno (FRE), Lassen (LAS), Modoc (MOD), Plumas (PLU), Shasta (SHA), Sierra (SIE), Tehama (TEH), Idaho (ID), Oregon (OR), Washington (WA)+	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/mesic	Jul-Sep	1500	2130	Potentially threatened by road deconstruction. Endangered in OR. See American Fern Journal 71(1):29 (1981) for original description, and Madroño 36(2):131-136 (1989) for first CA records.
Carex praticola	northern meadow sedge	Cyperaceae	List 2.2	Del Norte (DNT), Humboldt (HUM), Madera (MAD), Mono (MNO), Placer (PLA), Siskiyou (SIS), Tuolumne (TUO), Idaho (ID), Oregon (OR), Washington (WA), (++)	Meadows and seeps(mesic)	May-Jul	0	3200	On review list in OR.
Epilobium oreganum	Oregon fireweed	Onagraceae	List 1B.2	Del Norte (DNT), El Dorado (ELD), Glenn (GLE), Humboldt (HUM), Mendocino (MEN), Nevada (NEV), Placer (PLA), Shasta (SHA), Siskiyou (SIS), Tehama (TEH), Trinity (TRI), Oregon (OR)	Bogs and fens, Lower montane coniferous forest, Upper montane coniferous forest/mesic	Jun-Sep	500	2240	Unable to confirm many historical occurrences on Shasta-Trinity NF; is it more common elsewhere? Threatened by logging and grazing. Known from fewer than 1000 plants at about twenty localities in OR, where candidate for state listing. See Pittonia 1:255 (1888) for original description.
Erigeron nevadincola	Nevada daisy	Asteraceae	List 2.3	Lassen (LAS), Placer (PLA), Plumas (PLU), Sierra (SIE), Nevada (NV)	Great Basin scrub, Lower montane coniferous forest, Pinyon and juniper woodland/rocky	May-Jul	1400	2900	See E. eatonii var. nevadincola in The Jepson Manual. See Proceedings of the Biological Society of Washington 35:78 (1922) for original description, and Phytologia 73(3):191-192 (1992) for alternate taxonomic treatment.
Eriogonum umbellatum var. torreyanum	Donner Pass buckwheat	Polygonaceae	List 1B.2	Nevada (NEV), Placer (PLA), Sierra (SIE)	Meadows and seeps, Upper montane coniferous forest/volcanic, rocky	Jul-Sep	1855	2620	Known from fewer than ten occurrences. Similar to var. glaberrimum. Draft interim management guide prepared by USFS in 1993. See Fremontia 1(3):20 (1973) for discussion of rediscovery at type locality, and Phytologia 66(4):341-347 (1989) for taxonomic treatment.
Glyceria grandis	American manna grass	Poaceae	List 2.3	Fresno (FRE), Humboldt (HUM), Mendocino (MEN), Mono (MNO), Placer (PLA), (++)	Bogs and fens, Meadows and seeps, Marshes and swamps(streambanks and lake margins)	Jun-Aug	15	1980	
Ivesia sericoleuca	Plumas ivesia	Rosaceae	List 1B.2	Lassen (LAS), Nevada (NEV), Placer (PLA), Plumas (PLU), Sierra (SIE)	Great Basin scrub, Lower montane coniferous forest, Meadows and seeps, Vernal pools/vernally mesic, usually volcanic	May-Sep	1465	2200	Threatened by development, grazing, and vehicles. Interim management guide prepared by the USFS in 1992.
Potamogeton filiformis	slender-leaved pondweed	Potamogetonaceae	List 2.2	Contra Costa (CCA), El Dorado (ELD), Lassen (LAS), Merced (MER), Mono (MNO), Modoc (MOD), Mariposa (MPA), Placer (PLA), Santa Clara (SCL)*, Shasta (SHA), Sierra (SIE), Arizona (AZ), Nevada (NV), Oregon (OR), Washington (WA), (++)	Marshes and swamps(assorted shallow freshwater)	May-Jul	300	2150	To be expected in the San Joaquin Valley, San Francisco Bay area, and the central high Sierra Nevada; need information. On review list in OR.
Pseudostellaria sierrae	Sierra starwort	Caryophyllaceae	List 3.2	El Dorado (ELD), Mariposa (MPA), Nevada (NEV), Placer (PLA), Plumas (PLU), Tuolumne (TUO)	Chaparral, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	May-Aug	1250	2194	Move to List 1B? Location and rarity information needed. Potentially threatened by logging. Not in The Jepson Manual. See Novon 12:82-86 (2002) for original description.
Rhamnus alnifolia	alder buckthorn	Rhamnaceae	List 2.2	Alpine (ALP), Nevada (NEV), Placer (PLA), Plumas (PLU), Sierra (SIE), Idaho (ID), Oregon (OR), Utah (UT), Washington (WA), Wyoming (WY)	Lower montane coniferous forest, Meadows and seeps, Riparian scrub, Upper montane coniferous forest	May-Jul	1370	2130	Known in California from fewer that 20 occurrences. Threatened by grazing.
Rorippa subumbellata	Tahoe yellow cress	Brassicaceae	List 1B.1	El Dorado (ELD), Nevada (NEV)*, Placer (PLA), Nevada (NV)	Lower montane coniferous forest, Meadows and seeps/decomposed granitic beaches	May-Sep	1895	1900	Known in CA only from Lake Tahoe; many historical occurrences extirpated. Seriously threatened by development, recreation, trampling, and inundation; recovery work underway. State-listed as Critically Endangered in NV. See Contributions from the Dudley Herbarium 3:177 (1941) for original description.
Scutellaria galericulata	marsh skullcap	Lamiaceae	List 2.2	El Dorado (ELD), Lassen (LAS), Modoc (MOD), Nevada (NEV), Placer (PLA), Plumas (PLU), Shasta (SHA), Siskiyou (SIS)?, San Joaquin (SJQ), Oregon (OR), (++)	Lower montane coniferous forest, Meadows and seeps(mesic), Marshes and swamps	Jun-Sep	0	2100	Are SIS Co. occurrences misidentified? Occurrences from the Delta in SJQ Co. need further study.
Sphaeralcea munroana	Munroe's desert mallow	Malvaceae	List 2.2	Placer (PLA), Idaho (ID), Nevada (NV), Oregon (OR), Utah (UT), Washington (WA), Wyoming (WY)+	Great Basin scrub	May-Jun	2000	2000	Known in CA only from Squaw Creek. See Proceedings of the American Academy of Arts and Sciences 22:292 (1887) for revised nomenclature, and University of California Publications in Botany 19(1):83-85 (1935) for taxonomic treatment.

Appendix C USFWS List

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

September 13, 2011

Document Number: 110913114123

Garth Alling
Hauge Brueck Associates
Box 10291
Zephyr Cove, NV 89448

Subject: Species List for Dollar Creek Bike Trail, Placer County, California

Dear: Mr. Alling

We are sending this official species list in response to your September 13, 2011 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 12, 2011.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 110913114123

Database Last Updated: April 29, 2010

Quad Lists

Listed Species

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Quads Containing Listed, Proposed or Candidate Species:

KINGS BEACH (538A)
TAHOE CITY (538B)
HOMEWOOD (538C)
MEEKS BAY (538D)
TRUCKEE (554C)
MARTIS PEAK (554D)

County Lists

Placer County

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Proposed Species

Amphibians

Rana draytonii
Critical habitat, California red-legged frog (PX)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors

Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 12, 2011.

Historic Property Survey Report and Archaeological Survey Report

Dollar Creek Shared-Use Trail Project
Dollar Drive/SR 28 and Fulton Crescent Drive
Placer County
Prepared for Placer County using Caltrans Document Preparation Guidelines

March 2012

HISTORIC PROPERTY SURVEY REPORT

1. UNDERTAKING DESCRIPTION AND LOCATION

District	County	Route *(Local Agency)*	*Local Assistance Project Prefix*	Post Miles *(Project No.)*	Charge Unit *(Agreement)*	Expenditure Authorization *(Location)*
3	Placer	Dept. of Public Works				

(For Local Assistance projects off the highway system, use headers in italics)

Project Description:

Placer County Department of Public Works proposes to create an approximately 14 foot wide (to include 10 feet of trail and 2 foot wide clear zones on either side of trail) paved Class 1 bike path between the intersection of Dollar Drive and SR 28 and the terminus of Fulton Crescent Drive, north of Dollar Point on the northwest shore of Lake Tahoe in Placer County. This trail will allow riders, along with other trail users, to travel from Sugar Pines State Park, north to Tahoe City, and east to the termination of the proposed project at Fulton Crescent Drive. All construction staging areas would be located within the APE. There are no detours necessary for this project as no roadway improvements are proposed. The project crosses SR 28 just west of its intersection with Dollar Drive, however all improvements are in the SR 28 right-of-way (ROW). There are no utilities to reroute within the APE and the project does not require demolition-related activities.

2. AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) has been established in consultation with Caltrans District 3. APE maps were approved by Caltrans on TBD. According to Section 106 of the NHPA, as amended, the APE is defined as:

> …the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d]).

The APE for archaeological resources are the areas, surface and subsurface, that could experience ground disturbance as a result of proposed project activities including creating the path, bridge construction, and plant removal (Figures 3 and 4 of the Archaeological Survey Report (ASR), see attached). A horizontal APE has been established with a 15 ft from the center-line of the proposed trail, construction access, and trailhead access and parking area to accommodate work and staging areas. The vertical APE corresponds to the individual ground-disturbing project components outlined in the project description above.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION

X Native American Tribes, Groups and Individuals

- Shingle Springs Band of Miwok Indians – October 27, 2011
- United Auburn Indian Community of the Auburn Rancheria - October 27, 2011
- Washoe Tribe of Nevada and California – October 27, 2011

For the federal undertaking described in Part 1: To minimize redundancy and paperwork for the California Department of Transportation and the State Historic Preservation Officer, and in the spirit intended under the federal Paperwork Reduction Act (U.S.C. 44 Chapter 35), this document also satisfies consideration under California Environmental Quality Act Guidelines Section §15064.5(a) and, as appropriate, Public Resources Code §5024 (a)(b) and (d).

- April Wallace Moore - October 27, 2011
- Rose Enos - October 27, 2011

X Native American Heritage Commission

- Native American Heritage Commission - October 27, 2011

X Local Historical Society / Historic Preservation Group *(also if applicable, city archives, etc.)*

- Placer County Historical Society – October 18, 2011
- North Lake Tahoe Historical Society – October 18, 2011

4. SUMMARY OF IDENTIFICATION EFFORTS

X	National Register of Historic Places	Month & Year: 1979-2002 & supplements
X	California Register of Historical Resources	Year: 1992 & supplemental information to date
X	California Inventory of Historic Resources	Year: 1976
X	California Historical Landmarks	Year: 1995 & supplemental information to date
X	California Points of Historical Interest	Year: 1992 & supplemental information to date
X	State Historic Resources Commission	Year: 1980-present, minutes from quarterly meetings
X	Caltrans Historic Highway Bridge Inventory	Year: 2006 & supplemental information to date

X Archaeological Site Records

- North Central Information Center September 26, 2011

X Results**:** *(provide a brief summary of records search and research results, as well as inventory findings)*

The North Central Information Center (NCIC) records search identified 27 previous cultural resource studies completed within ½ mile of the project area. The 27 surveys included 10 studies completed within or intersecting the project area (Jackson, 1977; Munns, 1997; Peak & Associates, 1985, 1987, and 2007; Mead and Hunt, 2007; EDAW, 2007; URS, 2008; and USACOE, 2010).

The NCIC records search revealed that 13 historic and prehistoric resources have been recorded within or adjacent to the project area. Of the 13 identified resources two were located within the proposed trail alignment (P-31-1300, isolated pipe fragments; CA-PLA-1005H, a firestone can dump) and two were located adjacent to the proposed trail alignment (CA-PLA-1006H, Dollar Creek Dam and Ice House; the continuation of P-31-1300).

5. PROPERTIES IDENTIFIED

X Brian Marks, ESA, who meets the Professionally Qualified Staff Standards in Section 106 Programmatic Agreement Attachment 1 as an archaeologist, has determined that the only other properties present within the APE meet the criteria for Section 106 PA Attachment 4 (**Properties Exempt from Evaluation**).

- Isolated basalt flake

X Properties **previously determined not eligible** for inclusion in the National Register of Historic Places are present within the Project APE. *(Include date of determination)*:

- isolated pipe fragments (P-31-1300H)

HISTORIC PROPERTY SURVEY REPORT

6. LIST OF ATTACHED DOCUMENTATION

Attachment A: Archaeological Survey Report (ASR)

- Marks, 2012

7. HPSR to File

X As assigned by FHWA, Caltrans has determined a Finding of **No Historic Properties Affected**, according to Section 106 PA Stipulation IX.A and 36 CFR 800.4(d) (1), is appropriate for this undertaking.

The on-foot survey of the APE located an unrecorded isolated basalt flake. The basalt flake was an approximately 3 cm by 5 cm flake. It has no cortical material present. While no unifacial or bifacial flakes were observed, the edges of the flake exhibited utilization scars. An isolated prehistoric find consisting of fewer than three items per 100 square meters is exempt from evaluation under Caltrans Section 106 PA.

The on-foot survey of the APE also located the isolated pipe fragments (P-31-1300H) along the existing trail. P-31-1300H was previously determined ineligible for listing in the National Register of Historic Places (NRHP) due to its lack of association and integrity. CA-PLA-1005H, a firestone can dump, was not relocated during the course of survey.

No other cultural resources were identified within the APE. Therefore ESA staff recommends a finding of No Historic Properties Affected.

8. HPSR to SHPO

X Not applicable.

9. Findings for State-Owned Properties

X Not applicable; project does not involve Caltrans right-of-way or Caltrans-owned property.

10. CEQA IMPACT FINDINGS

(Check all that apply. Consultation with SHPO is not required under CEQA. ***This instruction line and findings that are not applicable may be deleted****)*

X Not applicable; Caltrans is not the lead agency under CEQA.

11. HPSR PREPARATION AND DEPARTMENT APPROVAL

Prepared by *(sign on line)*:		
District ___ Caltrans PQS:	*PQS level and discipline]*	Date
Prepared by: *Brian Marks*		March 1, 2012
Consultant / discipline:	*Archaeologist*	Date
Affiliation	*Environmental Science Associates*	
Reviewed for approval by: *(sign on line)*		
District ___ Caltrans PQS discipline/level:	*[PQS certification level]*	Date
Approved by: *(sign on line)*		
District___ EBC:	*[Environmental Branch name]*	Date

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ARCHAEOLOGICAL SURVEY REPORT FOR THE DOLLAR CREEK SHARED-USE TRAIL PROJECT PLACER COUNTY, CALIFORNIA

California Department of Transportation, District 3 - Marysville

Prepared by

March 1, 2012

Brian S. Marks, Ph.D., RPA — Date

Archaeologist, Cultural Resources Group

Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816
phone: (916) 564-4500 fax: (916) 564-4501

Approved by

District Environmental Branch Chief — Date

USGS topographic quadrangle: Kings Beach, CA/NV. 1992

March 2012 — ESA Project: D211433

SUMMARY OF FINDINGS

This report documents the archaeological survey conducted for the Dollar Creek Shared-Use Trail Project (project), Placer County, California. Preparing this report consisted of archival review at the North Central Information Center and a reconnaissance-level pedestrian field survey conducted in October 2011.

This report details the methods and findings of this study, which consisted of a literature and records search and a field survey. Background investigations indicated that no prehistoric archaeological resources had been recorded within the Area of Potential Effects (APE) and that some pipe remnants were the only identified historic-period resource. The on-foot surface survey observed the pipe remnants and located an unrecorded isolated basalt flake. Research indicates that the APE has a moderate to high potential to contain buried archaeological resources.

It is California Department of Transportation (Caltrans) policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey work may be required if the project changes to include areas not previously surveyed

DOLLAR CREEK SHARED-USE TRAIL PROJECT

Archaeological Survey Report

Introduction

Placer County Department of Public Works proposes to create an approximately 14 foot wide (to include 10 feet of trail and 2 foot wide clear zones on either side of trail) paved Class 1 bike path primarily within California Tahoe Conservancy (Conservancy) and North Tahoe Public Utility District (NTPUD) owned properties, between the intersection of Dollar Drive and SR 28 and the terminus of Fulton Crescent Drive, north of Dollar Point on the northwest shore of Lake Tahoe in Placer County, CA. The project establishes a separated shared-use trail, extending the backbone of the existing north shore bicycle trail network, linking residential uses to jobs, schools, shopping, and recreation and community areas. The approximately 2.5 mile long trail will link the existing Tahoe City to Dollar Point trail that ends near the intersection of Dollar Drive and SR 28 to the end of Fulton Crescent Drive and will utilize public lands owned by the NTPUD and Conservancy.

The project requires consideration under Section 106 of the National Historic Preservation Act (NHPA), as amended. In accordance with Section 106 and the California Department of Transportation's *Guidance for Consultants*, the purpose of this study was to identify and record any prehistoric or historic-period archaeological resources within the Area of Potential Effects (APE). Additionally, the information provided in this report satisfies TRPA Code of Ordinance requirements for historic resource protection (see TRPA Revised Code Chapter 67 effective March 1, 2012 which replaces Code Chapter 29).

Brian S. Marks, Ph.D. (Anthropology) is a Registered Professional Archaeologist and has 14 years of archaeological experience. Dr. Marks meets the Secretary of Interior's Professional Qualification Standards for historical and prehistorical archaeologist. Kathy Anderson, M.A. Public History, has 5 years of experience. She accompanied Dr. Marks during the survey to document any historic built features along the proposed trail.

This report details the methods and findings of this study, which consisted of a literature and records search and a field survey. Background investigations indicated that no prehistoric archaeological resources had been recorded within the APE and a scatter of pipe fragments was the only historic-period resource in the APE. ESA observed these pipes along the proposed trail and located an unrecorded isolated basalt flake within the APE during the on-foot surface survey. Research indicates that the APE has a moderate to high potential to contain buried archaeological resources.

Project Location and Description

Existing Trail

Numerous dirt trails currently exist in the general vicinity of the project area. The proposed shared-use trail crosses and even follows existing trails in several places. Existing trails not used by the proposed shared-use trail will remain in their current state for use by nature walkers, hikers, and mountain bikers.

Proposed Class 1 Bike trail

The project proposes to create an approximately 14 foot wide (to include 10 feet of trail and 2 foot wide clear zones on either side of trail) paved Class 1 bike path primarily within Conservancy and NTPUD owned properties, between the intersection of Dollar Drive and SR 28 and the terminus of Fulton Crescent Drive, north of Dollar Point on the northwest shore of Lake Tahoe in Placer County, CA (see Figures 1 and 2).

The proposed trial will cross California Tahoe Conservancy and NTPUD properties. With the exception of an easement through NV Energy property at the northern trail terminus at Fulton Crescent Drive, the trail will not impact private property.

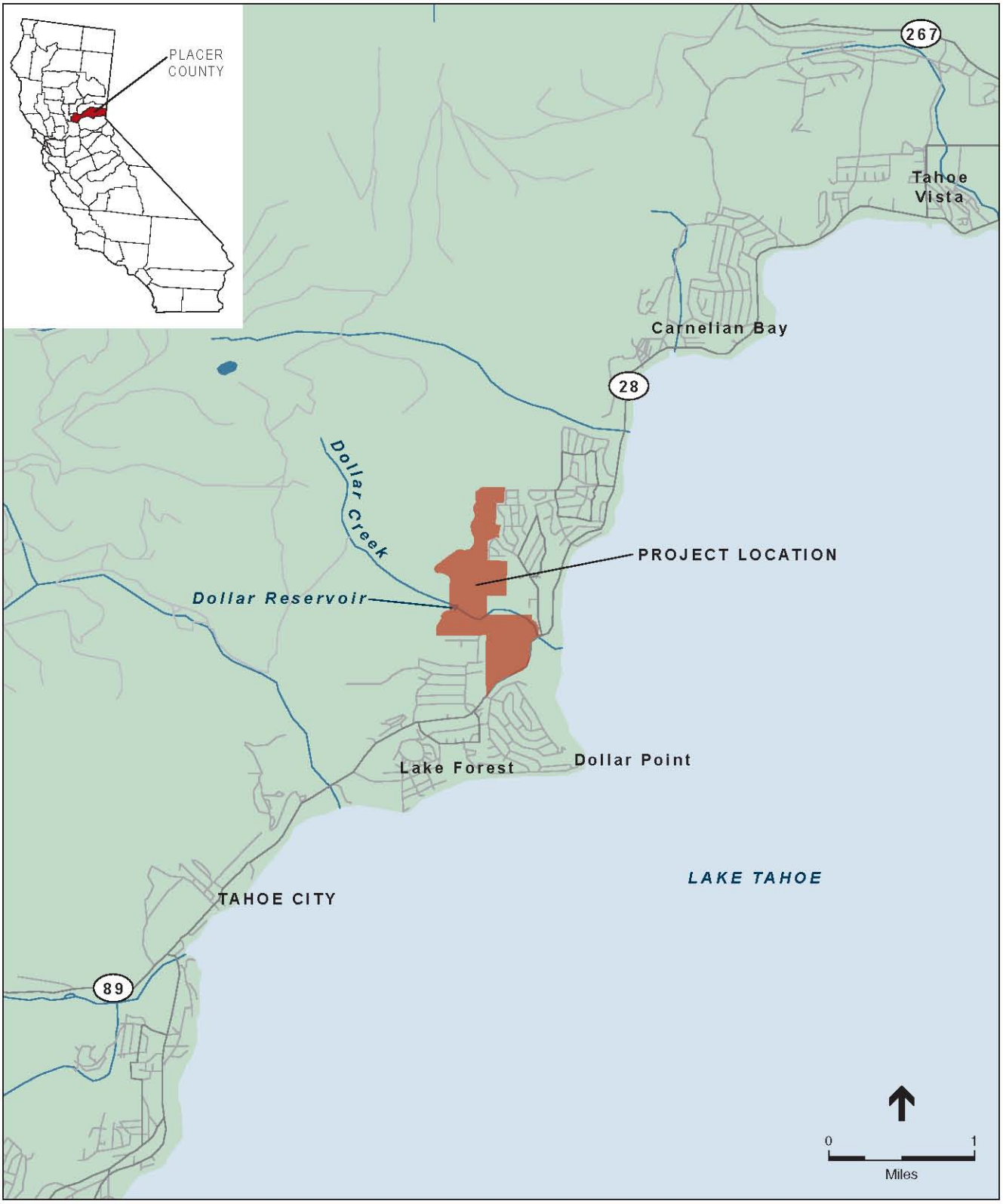
All construction staging areas will occur within the APE. There are no detours necessary for this project. There are no utilities to reroute within the APE, and the project does not require demolition.

Area of Potential Effects

The APE has been established in consultation with Caltrans District 3. Caltrans approved the APE maps on TBD. According to Section 106 of the NHPA, as amended, the APE is defined as:

> …the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR 800.16[d]).

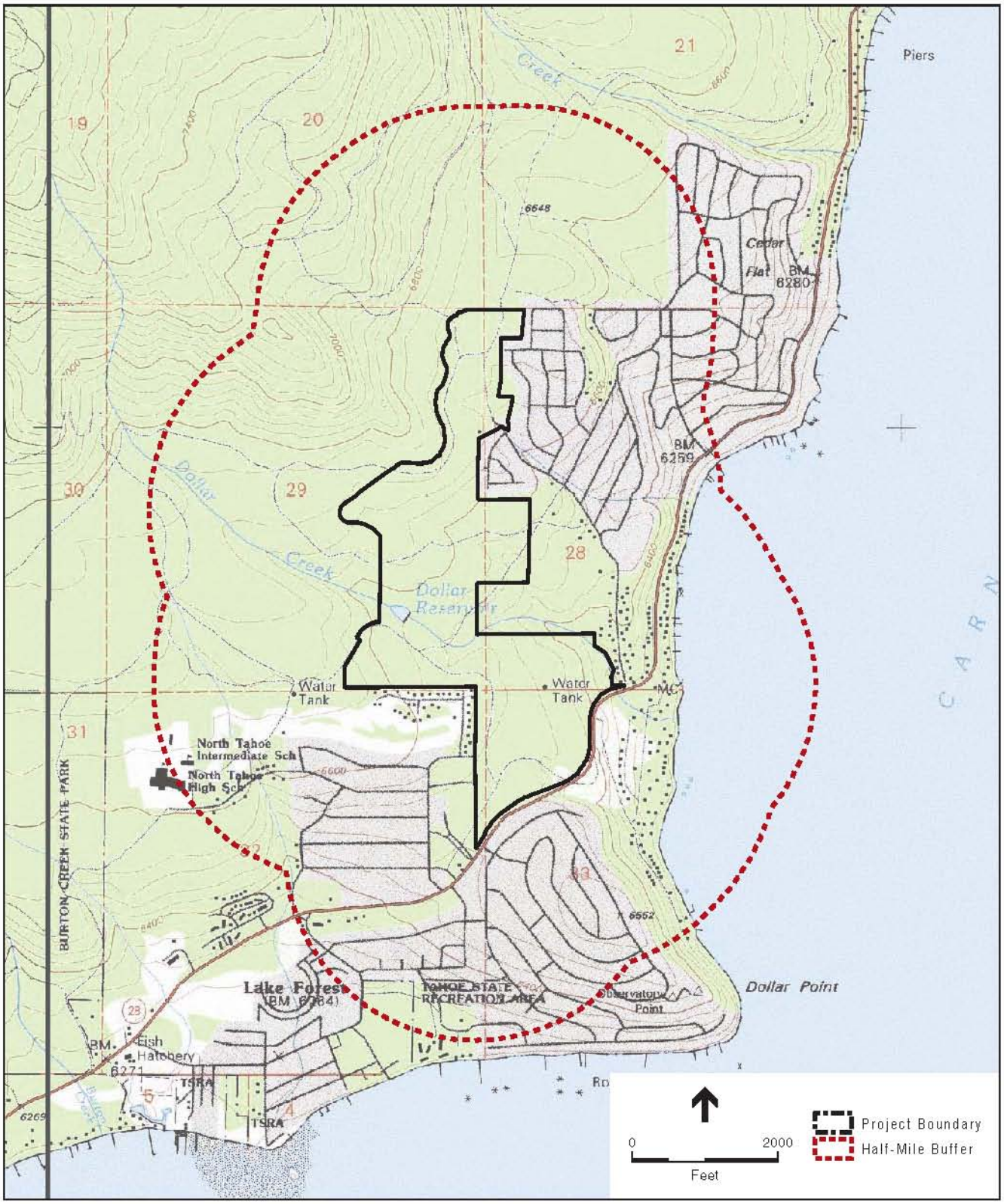
The APE for archaeological resources are the areas, surface and subsurface, that could experience ground disturbance as a result of proposed project activities including creating the path, bridge construction, and plant removal (Figure 3). A horizontal APE has been established as 15 ft from the center-line of the proposed trail, construction access, and trailhead access and parking area to accommodate work and staging areas. The vertical APE corresponds to the individual ground-disturbing project components outlined in the project description above.



SOURCE: DeLorme Street Atlas USA, 2000; and ESA, 2011

Dollar Creek Shared-Use Trail Project . 211433

Figure 1
Regional Location Map



SOURCE: USGS, 1994; and ESA, 2012

Dollar Creek Shared-Use Trail Project . 211433

Figure 2
NCIC Records Search Study Area

SOURCE: BingMaps, 2009; ESRI, 2009, and ESA, 2012

Dollar Creek Shared-Use Trail Project . 211433

Figure 3

Preliminary Draft – Archaeological Area of Potential Effects

Sources Consulted

Summary of Methods and Results

ESA staff conducted a records search for the project at the North Central Information Center (NCIC) of the California Historical Resources Information System at California State University Sacramento on September 26, 2011 (File No. PLA-1162). The purpose of the records search was to (1) determine whether known cultural resources have been recorded within or adjacent to the APE; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources. The records search consisted of an examination of the following documents:

- **NCIC base maps** (USGS Kings Beach 7.5-minute topographic maps), to identify recorded archaeological sites and studies within a ¼-mile radius of the APE.
- **NCIC base maps** (USGS Kings Beach 7.5-minute topographic maps), to identify recorded historic-period resources of the built environment (building, structures, and objects) within a ¼-mile radius of the APE.
- **Resource Inventories**: *California Inventory of Historical Resources, California Historical Landmarks, Historic Properties Directory Listing by City* (through October 2010).
- **Prehistoric Archaeology:** T.L. Jones and K.A. Klar (2007) *Prehistoric California: Colonization, Culture, and Complexity.* AltaMira Press, Walnut Creek.
- **Ethnographic Sources:** W.L. d'Azevedo (1986), Washoe. In *Great Basin, Handbook of North American Indians, Vol. 11*, edited by W.L. d'Azevedo, pp. 466–498, Washington, D.C.; Robert G. Elston (1986), Prehistory of the Western Area. In *Great Basin, Handbook of North American Indians, Vol. 11*, edited by W.L. d'Azevedo, pp. 135–498, Washington, D.C. A.L. Kroeber (1925) *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C.
- **Historic Maps:** An extensive on-line historic map collection with over 300 maps and views of California is available online at http://davidrumsey.com; General Land Office Plat T16N/R17E (1865); 1895 and 1940 USGS topographic quadrangles.

Results of Records Search

The NCIC records search identified 27 previous cultural resource studies completed within a half-mile of the project area or APE (see Table 1). The 27 surveys included 10 studies completed within or intersecting the project area (Jackson, 1977; Munns, 1997; Peak & Associates, 1985, 1987, and 2007; Mead and Hunt, 2007; EDAW, 2007; URS, 2008; and USACOE, 2010).

TABLE 1
PREVIOUS INVESTIGATIONS DONE WITHIN ½ MILE OF THE PROJECT AREA

CCIC Report #	Author (Date), Title	Within/Adjacent to Project Area (Y/N)
348	LSA (1987), A Cultural Resources Assessment Proposed Placer County Administration Center, Count of Placer.	Yes
1013	Greg Kostick (1993), Archaeological and Historical Resources Suvey and Impact Assessment for Lowell Hill.	No
1901	Susan Lindstrom (1997), Fulton Water Company Cedar Flat Well and Distribution System Heritage Resource Inventory, Placer County.	No
1920	Caltrans (1991), Negative Archaeological Survey Report: State Route 28 at Dollar Grade.	No
1979	William Banka (1998) Confidential Archaeological Addendum For Timber Operations on Non-Federal Lands in California.	No
4380	Susan Lindstrom (1989) A Cultural Resources Overview for the Tahoe City Community Plan, Placer County California.	Yes
4389	Caltrans (1991) Archaeological Inventory Surveys of Tahoe State Recreation Area.	Yes
4381	Susan Lindstrom (1986), A Cultural Resources Reconnaissance of the North Shore Transit Maintenance Facility Environmental Impact Report.	No
7216	S. Dexter (1994) Urban Fringe Management Heritage Resource Report.	No
7313	Stephen Windward (2005) An Archaeological Survey Report for the Highlands Village Conversion Timber Harvesting Plan, Placer County, California.	No
7418	Geotrans, Inc (2002) Proposed Cedar Flat Project.	No
7420	USFS (1997), Basalt Quarrying on Watson Creek: An Archaeological and Ethnographic Study in the Northern Lake Tahoe Basin.	No
7582	Herschel Davis (1994), Cultural Reconnaissance Report OHV Road and Spur Improvements and Obliteration: Placer and El Dorado Counties, California.	No
7725	John Furry (2006), Archaeological/Historical Property Survey of the Chinquapin Property.	No
7791	USFS (2006), North Short Trail ATM Environmental Assessment.	No
8072	Caltrans (2004), Historic Property Survey Report For the Proposed Roadway Rehabilitation and Drainage System Project on State Route 28 From Tahoe City to the Nevada State Line, Placer County, California.	Yes
9326	Caltrans (2008), Cultural Resources Inventory of Caltrans District 3Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo and Yuba Counties.	Yes
9506	Susan Lindstrom (9506) Highlands Forest Clearing Project Heritage Resources Inventory, Placer County, California	No
9606	USFS (2003), Proposed Mechanical Treatment of North Shore Units 13-3 and 13-4. LTBMU, Placer County, California.	Yes
9654	USFS (1996), North Shore Ecosystems Project Heritage Resources Inventory.	No
10005	Chambers Group, Inc (2007), Cultural Resources Inventory of Area B for the Lake Forest Erosion Control Project, Placer County, California.	No
10138	USFS (2007), An Archaeological Survey Report for the Dollar Point Fuel Reduction 2007, Placer County, California.	Yes
10139	USFS (2007), An Archaeological Survey Report for the Dollar Point Fuel Reduction 2009 Forest Fire Prevention Exemption, Placer County, California.	No
10141	John Furry (2009) Archaeological/historical Survey for the Beverly Road Fire Reduction Project located near Tahoe City, California.	No
10148	John Furry (2009) Archaeological/historical Survey for the Collins Project Area Near Tahoe City, Placer County, California	No

The NCIC records search revealed that 13 historic and prehistoric resources have been recorded within or adjacent to the project area or APE. Of the 13 identified resources two were located within the project alignment and two were located adjacent to the proposed trail alignment. Table 2 lists previously recorded cultural resources within the half- mile buffer of the APE.

TABLE 2
RECORDED HISTORIC STRUCTURES WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT AREA

Primary Number (Trinomial)	Description	Within or Adjacent Project Area
P-31-1132 (CA-PLA-943)	Basalt Cobble Quarry, cobble core reduction and biface reduction assemblage	1/2 mile
P-31-1299 (CA-PLA-1005H)	Firestone Can Dump	Within
P-31-1300	Isolated Pipe Fragments	Within
P-31-1301 (CA-PLA-1006H)	Dollar Dam and ice house	Adjacent
P-31-1302 (CA-PLA-1007H)	Lithic Scatter and Trash Dump	1/2 mile
P-31-2008 (CA-PLA-1518H)	Creek Road Grade	1/2 mile
P-31-2768 (CA-PLA-1934)	Basalt Biface Reduction Site	1/2 mile
P-31-2771 (CA-PLA-1937)	Basalt Cobble Quarry	1/2 mile
P-31-2772 (CA-PLA-1938)	Basalt Cobble Core Reduction	1/2 mile
P-31-2773 (CA-PLA-1939)	Basalt Cobble Quarry	1/2 mile
P-31-2774 (CA-PLA-1940)	Basalt Cobble Quarry	1/2 mile
P-31-2775 (CA-PLA-1941)	Basalt Cobble Quarry	1/2 mile
P-31-2776 (CA-PLA-1942)	Lithic scatter	1/2 mile
P-31-2777 (CA-PLA-1943)	Basalt Cobble Quarry	1/2 mile
P-31-3351 (CA-PLA-2237)	Basalt Flake projectile point	1/2 mile
P-31-3394	FS Road 16N74	1/2 mile
P-31-3406	Basalt Flake Isolate	1/2 mile
P-31-3407	Basalt Flake Isolate	1/2 mile
P-31-5355	Truro Trail	1/2 mile
P-31-5356	Lanza Dump	1/2 mile
P-31-5357	Dollar Water Line	1/2 mile

SOURCE: NCIC, 2011

National Register of Historic Places-Listed Properties

There are no National Register of Historic Places (NRHP) listed properties within a quarter- mile of the APE. The Watson Log Cabin, near the intersection of SR 28 and SR 89 in Tahoe City is the nearest NRHP-listed resource. Robert Montgomery Watson built the log cabin in 1908 for his son Robert Watson as a present for his marriage to Stella Tong in 1909. The cabin is approximately 2.5 miles southwest of the APE.

California Historic Landmarks

There are no California Historic Landmarks (CHL) within a quarter- mile of the APE. The nearest CHL is the Squaw Valley Cable Car Building Lobby, over 7 miles west of the APE. The building was constructed in 1860.

Summary of Native American Consultation

ESA submitted a sacred lands search request to the Native American Heritage Commission (NAHC) on September 23, 2011. The NAHC responded on October 27, 2011. A records search of their sacred land file did not indicate the presence of Native American cultural resources in the APE. The NAHC provided a list of Native American individuals/organization that might have additional information or concerns. ESA contacted each person on the list by letter on October 27, 2011. The Shingle Springs Rancheria responded with no knowledge of cultural resources in the APE, but also requested progress updates and copies of survey reports and record searches. There have been no other responses as of this writing.

Summary of Others Who Were Consulted

A letter was sent to the Placer County Historical Society and the North Lake Tahoe Historical Society on October 18, 2011 requesting any information or concerns about the project APE. No response has been received as of this writing.

Environmental Background

The project area is within the Sierra Nevada Geomorphic Province, specifically the Tahoe-Truckee Sub-section. This province is a 400-mile tilted fault block with the eastern face being more rugged and steep compared to the gentle western slope that plummets beneath the adjacent San Joaquin Valley. The topography in the APE and surrounding areas is mountainous, with an overall slope from west to east. The Tahoe-Truckee Sub-section contains moderately steep plateaus and steep mountains. Streams form canyons with steep side slopes. Elevation ranges from 5,000 ft along the Truckee River to 9,143 ft at Mt. Lola. The elevation of the APE ranges from 6,500 to 6,700 feet above sea level. Logging was prevalent in the past, but the area is currently used for hiking and mountain biking, with some housing along the periphery.

Geoarchaeological Review

In many places, the interface between older land surfaces and alluvial fans are marked by a well-developed buried soil profile, or a paleosol. Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archeological resources if the area was occupied or settled by humans (Meyer and Rosenthal, 2007). Because human populations have grown since the arrival of the area's first inhabitants, younger paleosols (late Holocene) are more likely to yield archeological resources than older paleosols (early Holocene or Pleistocene).

The APE is mapped as Pleistocene volcanic with basaltic rocks. The soil in the APE is mapped as various versions of the well drained Jorge and Tahoma cobbly fine sandy loams with 2 to 50 percent slopes. Due to the age of the soils, the likelihood of buried paleosols is low.

Prehistory

In 9000 B.C., large pluvial lakes and marshes covered much of the California interior—the largest of which included Buena Vista and Tulare Lakes. Although an archaeological sequence was not defined based on the early findings near pluvial lakes, the material discovered subsumed a wide variation in time and occupation commonly referred to as the "Western Pluvial Lakes Tradition." This tradition shared a common toolkit: leaf-shaped projectile knives and points (fluted) and milling stones for exploiting the rich resource base located around the pluvial lakes and marshes (Moratto, 1984). By 6500 B.C., a global warming trend called the Altithermal brought about the decline of the ancient lakes. This period of climate change and the cultural adaptations to these dryer, hotter conditions is poorly understood.

Archaeologists developed a three-part cultural chronological sequence, the Central California Taxonomic System (CCTS) to explain local and regional cultural change in prehistoric central California from about 4,500 years ago to the time of European contact (Beardsley, 1954). The Windmiller Pattern was the earliest comprehensive view of the region, from the Paleo-Indian Period to Lower Archaic (~6000 B.C. to ~3000 B.C.; Beardsley, 1954; Heizer & Fenenga, 1939). This cultural horizon reflected a people well adapted to riverine and marshland environments. The subsequent Berkeley Pattern or Cosumnes culture (~2000 B.C. to A.D. 300), comparable to the emerging Archaic Period in California prehistory (3000 B.C. to A.D. 1000), reflected a change in socioeconomic complexity and settlement patterns. The Tahoe-area expression of the Windmiller Pattern appears as the Martis Complex and exhibits more sedentary life ways with housepits, hearths, tool caches, and the limited human burials. The Kings Beach Phase replaced the Martis Complex approximately 1500 years ago with an increase of small projectile points in the material culture assemblage. An increase in elaborate food processing tools implies an increased reliance of plant food, most likely the pinyon pine. By 900 years ago, the long term camps were used with less frequency and smaller groups.

Ethnography

The proposed project lies entirely within the territory of the Hokan-speaking Washoe people. While they were an informal and flexible political collectivity, Washoe ethnography hints at a level of technological specialization and social complexity for Washoe groups, non-characteristic of their surrounding neighbors in the Great Basin. Semisedentism and higher population densities, concepts of private property, and communal labor and ownership were reported and may have developed in conjunction with their residential and subsistence resource stability (d'Azevedo 1986:473-476).

Lake Tahoe was and remains both the spiritual and physical center of the Washoe world. The Washoe lived along its shores, and the locations of several Washoe encampments in the Lake Tahoe Basin have been reported. The project vicinity is near two important Washoe fishing campsites, ImgiwO'tha and MathOcahuwo'tha (d'Azevedo 1986:473-476).

The Washoe Tribe is a federally recognized tribe by the U.S. Government, is a sovereign government and has maintained an established land base. Its approximately 1,600 tribal members are governed by a tribal council that consists of members of the Carson, Dresslerville, Woodfords, Stewart and Reno-Sparks communities, as well as a significant number of tribal members from non-reservation areas (Inter-Tribal Council of Nevada 1995).

History

John Charles Fremont, a U.S. Army officer, led an exploratory expedition in California in 1844 and became the earliest documented Euro-American to arrive into the Lake Tahoe area. In February of that year, Fremont and his company mapped the location of Lake Tahoe and assigned it the name "mountain lake." The name soon changed to Lake Bonplaud, after the French botanist who accompanied the expedition. In 1853, the official mapmaker of the state renamed it Lake Bigler, and then in 1861 the name changed for the final time to Lake Tahoe (Hoover, 2002).

Settlers had been passing through the area on their travels to California as early as 1841, and the discovery of gold in California in 1849 and silver in Nevada in 1858 sent miners and fortune seekers traveling through the area, as well as settling in the region. When the mining boom started there was an immediate need for building materials. Tahoe City emerged as a lumber center supplying the Comstock Mines near Virginia City. The first survey for Tahoe City was made in 1863, and after the completion of the Central Pacific Railroad as far as Truckee, a wagon road was constructed connecting Truckee and Lake Tahoe. In 1873, Duane L. Bliss, H.M. Yerington, D.O. Mills, and J.A. Rigby organized the Carson and Tahoe Lumber and Fluming Company. Between the 1860s and 1890s, the region prospered as lumber towns developed around mills (Terhorst, 1992; Hoover, 2002).

Over harvesting of timber by the mills resulted in towns growing and then quickly withering, with little community endurance. With the end of the silver boom in Nevada, the demand for lumber declined rapidly, and only towns that developed as tourist centers were able to survive and continue to prosper. Some early settlers had sensed the possibilities of Lake Tahoe as a resort

location and established retreats and lodges in the area. William Pomin constructed the Tahoe House in Tahoe City in 1864, and in 1871 AJ. Bayley opened his Grand Central Hotel. After the decline of the lumber industry, Lake Tahoe developed as a resort, with tourists coming from San Francisco to vacation along the lake shore. In the 1920s, automotive traffic reached Lake Tahoe and both summer and winter tourism intensified. The legalization of gambling in 1931 became a significant economic factor in the Tahoe basin, although the north shore was never as significant a gaming center as the south shore. Tahoe hosted the 1960 Winter Olympics, resulting in the winter sports industry assuming a prominent place, along with gaming, in the economy of the Tahoe Basin (Terhorst, 1992).

Field Methods

Brian S. Marks, Ph.D. RPA, conducted an intensive archaeological survey of the APE on October 11, 2011 along with Katherine Anderson. ESA surveyed the various proposed trail alignments within the APE on foot in approximately 10-foot transects. Ground visibility ranged from 0 to 100% depending on the amount of vegetation and detritus on the forest floor. In areas of poor visibility, the crew scraped back the vegetation to better see the ground surface.

Study Findings and Conclusions

The on-foot survey of the area located the previously recorded isolated pipe fragments (P-31-1300H) along the existing trail, as well as an unrecorded isolated basalt flake. The pipes are 6 inch diameter riveted iron pipes. One of the pipes has a repair clamp at one end. The isolated pipe fragments are likely part of the water conveyance system that started at the Dollar Dam to the north.

The basalt flake was an approximately 3 cm by 5 cm flake. It has no cortical material present. While no unifacial or bifacial flakes were observed, the edges of the flake exhibited utilization scars. The crew observed additional angular basalt rocks; however, they did not exhibit enough characteristics to determine if they had undergone alteration by humans, nature (freeze fracturing), or mechanical (during logging activities).

Unidentified Cultural Materials

If previously unidentified cultural materials are unearthed during construction, it is Caltrans' policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. Additional archaeological survey will be needed if project limits are extended beyond the present survey limits. Prehistoric materials may include: obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials may include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

There is a possibility of encountering human remains during ground disturbing construction activities (Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human grave). If human graves are encountered, work should halt in the vicinity and the County Coroner should be notified. At the same time, an archaeologist should be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 48 hours of this identification.

References Cited

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Attachment A
Correspondence

ESA

ESA Community Development

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

September 23, 2011

Debbie Pilas-Treadway
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

SUBJECT: Request for Search of Sacred Lands Files and Native American Contact List

Dear Ms. Treadway:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to provide an adequate appraisal of all potential impacts that may result from the proposed project, ESA is requesting that a search be conducted of the sacred lands files and records of traditional cultural properties that may exist within or adjacent to the project area. I would also like to request a list of Native American individuals and organizations that should be contacted about potential sites and resources of importance to Native Americans.

Thank you for your time and cooperation regarding this matter. Please contact me at 916-564-4500 if you have any questions.

Sincerely,

Katherine Anderson
Cultural Resource Associate

STATE OF CALIFORNIA Edmund G. Brown Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

October 27, 2011

Katherine Anderson
ESA
2600 Capitol Avenue, Suite 200
Sacramento, CA 95816

Sent by Fax: 916-564-4501
# of Pages: 3

Re: Proposed North Lake Tahoe Bike Trail Project, Placer County.

Dear Ms. Anderson:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4040.

Sincerely,

Katy Sanchez

Katy Sanchez
Program Analyst

Native American Contact List
Placer County
October 27, 2011

Shingle Springs Band of Miwok Indians
John Tayaba, Vice Chairperson
P.O. Box 1340 Miwok
Shingle Springs, CA 95682 Maidu
(530) 676-8010
(530) 676-8033 Fax

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 Miwok
Shingle Springs, CA 95682 Maidu
nfonseca@ssband.org
(530) 676-8010
(530) 676-8033 Fax

Rose Enos
15310 Bancroft Road Maidu
Auburn , CA 95603 Washoe
(530) 878-2378

Washoe Tribe of Nevada and California THPO
Darrel Cruz, Cultural Resources Coordinator
919 Highway 395 South Washoe
Gardnerville , NV 89410
darrel.cruz@washoetribe.
(775) 265-4191 ext 1212
(775) 546-3421 - cell
(775) 265-2254 FAX

United Auburn Indian Community of the Auburn Rancheria
David Keyser, Chairperson
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
530-883-2390
530-883-2380 - Fax

United Auburn Indian Community of the Auburn Rancheria
Marcos Guerrero, Tribal Preservation Committee
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
mguerrero@auburnrancheria.com
530-883-2364
530-883-2320 - Fax

Washoe Tribe of Nevada and California
Waldo Walker, Chairperson
919 Highway 395 South Washoe
Gardnerville , NV 89410
waldo.walker@washoetribe.
775-265-4191
775-265-6240 Fax

April Wallace Moore
19630 Placer Hills Road Nisenan - So Maidu
Colfax , CA 95713 Konkow
530-637-4279 Washoe

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed North Lake Tahoe Bike Trail Project; Placer County.

Native American Contact List
Placer County
October 27, 2011

United Auburn Indian Community of the Auburn Rancheria
Gregory S. Baker, Tribal Administrator
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
gbaker@auburnrancheria.
530-883-2390
530-883-2380 - Fax

Shingle Springs Band of Miwok Indians
Daniel Fonseca
P.O. Box 1340 Miwok
Shingle Springs, CA 95682 Maidu
(530) 676-8010
(530) 676-8033 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed North Lake Tahoe Bike Trail Project; Placer County.

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

October 27, 2011

Rose Enos
15310 Bancroft Road
Auburn, CA 95603

Subject: North Lake Tahoe Bike Trail Project

Dear Ms. Enos:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

October 27, 2011

Shingle Springs Band of Miwok Indians
John Tayaba, Vice Chairperson
PO Box 1340
Shingle Springs, CA 95682

Subject: North Lake Tahoe Bike Trail Project

Dear Mr. Tayaba:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

October 27, 2011

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
PO Box 1340
Shingle Springs, CA 95682

Subject: North Lake Tahoe Bike Trail Project

Dear Chairperson Fonseca:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

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2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

October 27, 2011

Shingle Springs Band of Miwok Indians
Daniel Fonseca
PO Box 1340
Shingle Springs, CA 95682

Subject: North Lake Tahoe Bike Trail Project

Dear Mr. Fonseca:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County**.** The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

October 27, 2011

April Wallace Moore
19630 Placer Hills Road
Colfax, CA 95713

Subject: North Lake Tahoe Bike Trail Project

Dear Ms. Moore:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

October 27, 2011

Washoe Tribe of Nevada and California THPO
Darrel Cruz, Cultural Resource Coordinator
919 Highway 395 South
Gardnerville, NV 89410

Subject: North Lake Tahoe Bike Trail Project

Dear Mr. Cruz:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

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October 27, 2011

Washoe Tribe of Nevada and California
Waldo Walker, Chairperson
919 Highway 395 South
Gardnerville, NV 89410

Subject: North Lake Tahoe Bike Trail Project

Dear Chairperson Walker:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

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Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

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October 27, 2011

United Auburn Indian Community of the Auburn Rancheria
David Keyser, Chairperson
10720 Indian Hill Road
Auburn, CA 95603

Subject: North Lake Tahoe Bike Trail Project

Dear Chairperson Keyser:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
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October 27, 2011

United Auburn Indian Community of the Auburn Rancheria
Marcos Guerrero, Tribal Preservation Committee
10720 Indian Hill Road
Auburn, CA 95603

Subject: North Lake Tahoe Bike Trail Project

Dear Mr. Guerrero:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

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Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

October 27, 2011

United Auburn Indian Community of the Auburn Rancheria
Gregory S Baker, Tribal Administrator
10720 Indian Hill Road
Auburn, CA 95603

Subject: North Lake Tahoe Bike Trail Project

Dear Mr. Baker:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

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Thank you for your time and cooperation regarding this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

Katherine Anderson
Cultural Resources Associate

Attachments

MIWOK
MAIDU

United Auburn Indian Community
of the Auburn Rancheria

David Keyser
Chairman

Kimberly DuBach
Vice Chair

Gene Whitehouse
Secretary

Brenda Conway
Treasurer

Calvin Moman
Council Member

November 14, 2011

Katherine Anderson
ESA
2600 Capitol Avenue, Suite 200
Sacramento, CA 95816

RECEIVED
NOV 30 2011
By

Subject: North Tahoe Bike Trail Project

Dear Ms. Anderson,

Thank you for your invitation to consult on the above named project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and ancestral territory spans into El Dorado, Nevada, Sacramento, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

The project area you've identified lies outside what the UAIC considers to be our geographic purview. However, we'd like to encourage you to consult with the other tribe(s) identified by the Native American Heritage Commission for the project area. We support your efforts to ensure that California Indian resources and religious values are given proper consideration in project planning. You may want to contact Darrell Cruz, THPO for the Washoe directly.

Washoe Tribe of Nevada and California
Darrel Cruz, CRO/THPO Director
919 US Hwy 395 South
Gardnerville, NV 89410
Tel: 775.888.0936
Fax: 775.888.0937
Email: darrel.cruz@washoetribe.us

Thank you again for taking these matters into consideration, if you have any questions please contact Marcos Guerrero, cultural resources specialist, at (530) 883-2364 or email at mguerrero@auburnrancheria.com. In the event that you do not hear back from the Washoe Tribe on this project please contact the UAIC.

Sincerely,

Gregory S. Baker,
Tribal Administrator

CC: Marcos Guerrero, UAIC

SHINGLE SPRINGS RANCHERIA
P.O. BOX 1340; SHINGLE SPRINGS, CA 95682
(530) 676-8010; FAX (530) 676-3582

RECEIVED
NOV 07 2011
By

November 1, 2011

ESA
2600 Capitol Avenue
Suite 200
Sacramento, CA 95682

RE: North Lake Tahoe Bike Trail Project

Dear Katherine Anderson

Thank you for your letter dated October 27, 2011 seeking information regarding the proposed North Lake Tahoe Bike Trail Project in Placer County. Based on the information provided, the Shingle Springs Band of Miwok Indians is not aware of any known cultural resources on this site. However, SSR would like to have continued consultation through updates, as the project progresses this will foster a greater communication between the Tribe and your agency.

SSR would also like to request any and all completed record searches and or surveys that were done in or around the project area up to and including environmental, archaeological and cultural reports.

If during the progress of the project new information or human remains are found we would like to be able to go over our process with you that we currently have in place to protect such important and sacred artifacts (especially near rivers and streams).

Please contact the following individuals if such finds are made:

Mr. Daniel Fonseca, Director and Most Likely Descendant (MLD)
Office: (530) 676-8010, dfonseca@ssband.org

And copy all communications to:
Crystal Dilworth, Office Coordinator cadilworth@ssband.org Office (530) 698-1471

ESA Land Management

2600 Capitol Ave
Suite 200
Sacramento, CA 95816
916.564.4500 phone
916.564.4501 fax

www.esassoc.com

September 14, 2011

Ms. Sally Torpy, Coordinator
North Central Information Center
California State University, Sacramento
6000 J Street, Adams Building, Suite #103
Sacramento, CA 95819-6100

Subject: Records Search Request for the North Lake Tahoe Bike Trail - 211433

Dear Ms. Torpy:

ESA is conducting environmental studies for the **North Lake Tahoe Bike Trail Project**, Tahoe City, Placer County**.** The project is located on the Kings Beach USGS 7.5' Quad (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park. Our budget for this records search is $1000. If the time requirements for gathering the following information approaches this limit, please let me know so I can determine what types of information are more crucial for our needs.

Please include the following information for the Project Area (PA) (see map legend):

- Cultural Resources Sites and Surveys within the PA and within a ½ mile of the PA
- Copies of the bibliographic information for survey reports within the PA and within ½ mile of the project site
- A copy of site forms for resources within the PA
- A list of Historical Resources, Historic Resource Surveys, or literature on Historic Districts within the PA and within a ½ mile of the PA
- A review of Historic Properties Directories, e.g. National Register, California Register, California Historical Landmarks, and California Points of Historical Interest within the PA and within a ½ mile of the PA
- California Inventory of Historic Resources (OHP list)
- Any historic USGS maps or GLO Plats you may have.

If you have any questions, please give me a call, (916) 564-4500

Sincerely,

Katherine Anderson
Cultural Resources Associate
[attachment]

Geography

Placer County, in central northeastern California, consists mostly of uplands with a diverse range of environments. The County has an area of 964,140 acres or 1,506 square miles. Placer County occupies a diverse region that includes the oak-studded plains east of the Sacramento River; the variegated foothills; the dense stands of conifers and grassy meadows of the rocky Sierra Crest; and the more arid lands of the eastern slope, including portions of the northern and western shores of Lake Tahoe.

At its western border are the flat and gently rolling lands of the Central Valley. These quickly give way to foothills, and then the steep mountains and crest of the Sierra Nevada. The western third of the County is generally flat with some foothills; the middle portion consists of large east-west trending ridges such as Forest Hill Divide, Iowa Divide, and Mosquito Ridge. Separating these ridges are large canyons such as steeply sloped Royal Gorge which is about 3,000 feet deep. At the eastern side of the County is the crest of the Sierra Nevada and then the Lake Tahoe Basin. Elevations range between 50 feet in the west and 9,000 feet at the crest, and about 6,000 feet in the Lake Tahoe Basin.

As varied as the topography are the plant communities on these lands. The grassy California Prairie is in the west, and blue oak-gray pine communities are in the foothills. As the elevation rises the communities transition from yellow pine forest to Sierra montane forest, with upper montane forests in the high country. The area around Lake Tahoe Basin consists of Sierra montane forest.

There are several rivers in Placer County. The largest is the American River; with its Middle and North forks forming substantial tributaries. The American River and the Middle Fork of the American River, along with the Rubicon River, form the southern boundary of Placer County. The Bear River forms a portion of the County's northern boundary. Other major watercourses are the Truckee River and the South Fork of the Yuba River. The Bear and the American River have been well-developed for hydroelectric power generation. While not substantial, the County's western watercourses, such as Auburn Ravine and its tributaries, were important sources of water.

Placer County encompasses about a third of Lake Tahoe. This lake, renowned for the beauty of its setting, attracts many visitors. Most of the other large bodies of water in Placer County are reservoirs. The largest is Folsom Lake, a State Recreation Area; others include Lake Combie, Rollins Reservoir, Camp Far West Reservoir, French Meadows Reservoir, and Hell Hole Reservoir.

Placer County, named after placer mining, still exhibits much evidence of the gold mining era. Placer mining, widely practiced in the 1850s, had essentially given way to hydraulic mining by the 1860s, and then to dredge mining by the late 1890s. Hydraulic and dredge mining left large pits and tailings that are distinctive features of the County's landscape. Many of the areas affected by the mining are to this day unfit for productive land uses.

Preliminary reports from the US Department of Commerce, Bureau of the Census, put the 1970 population of Placer County at 77,632, and the 1980 population at 117,293. As of January 1992, the State of California Department of Finance estimated the County's population at 186,861 with just over half of its population living in unincorporated areas. The largest city in the County is Roseville, followed by Rocklin, and then Auburn, the County seat. Other incorporated towns are Lincoln, Loomis, and Colfax. Several smaller present-day communities are scattered throughout the County and include Dutch Flat, Foresthill, Meadow Vista, and Tahoe City. About 1/3 of the County, 315,000 acres, are Tahoe and Eldorado national forest lands.

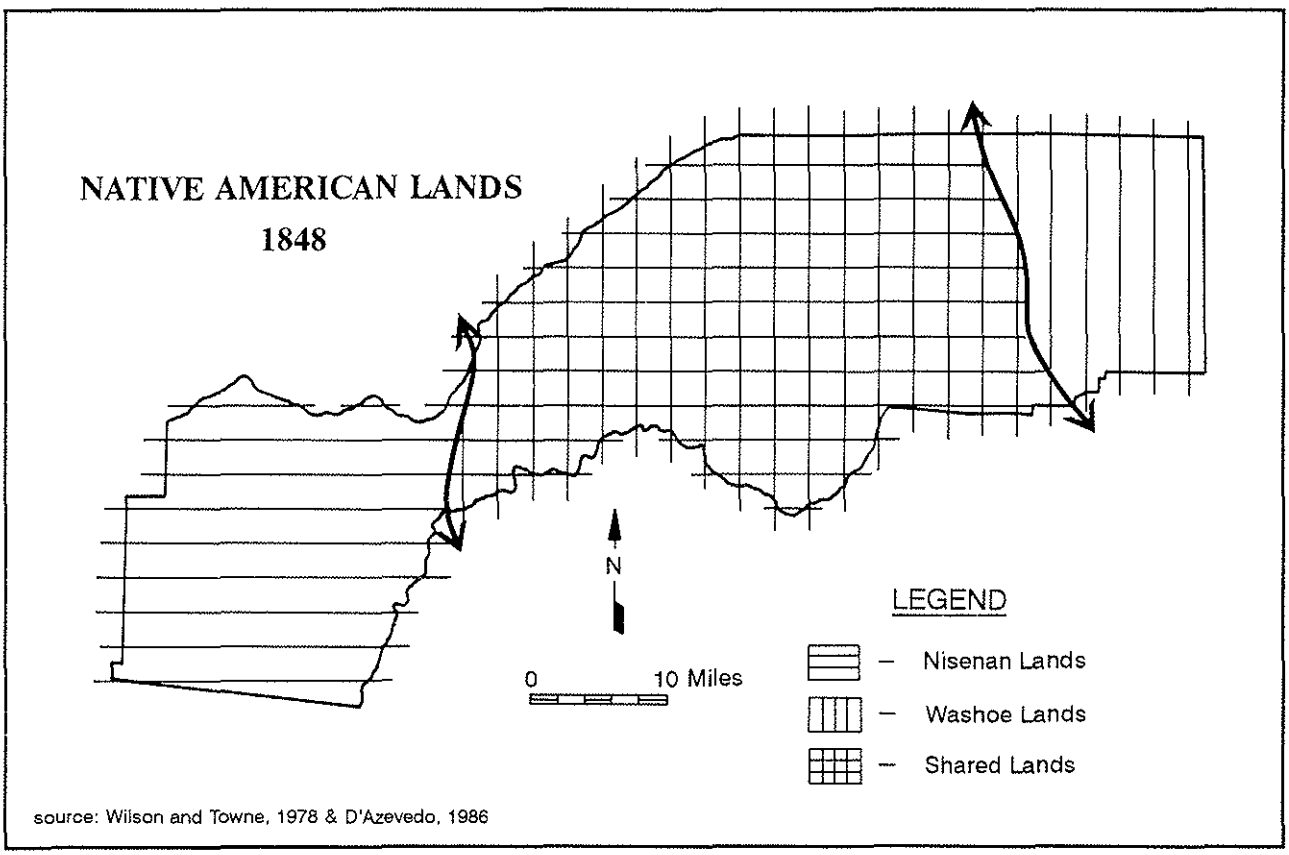
The County has a varied economy based on agriculture, recreation, retirement, tourism, and summer and winter sports at Lake Tahoe and in the national forests. The national forests and adjacent lands also support a

timber-harvesting industry. Gold mining, such a significant aspect of Placer County's history, has been in decline for many years and is no longer a notable industry. The extraction of sands, gravels, clays, and stone, however, contribute to today's economy. Placer County manufacturing industries include lumber products and stone and clay products. New light industries, such as electronic firms, are emerging in the Roseville and Lincoln areas. Transportation is a significant aspect of the County, and east-west trending U.S. Interstate Highway 80, which passes through the County, is one of the nation's major highways. The Southern Pacific Railroad - formerly the Central Pacific and the first transcontinental railroad - passes through Placer County. Substantial railroad facilities, for preparing transcontinental trains, are at Roseville. Tourists visit Lake Tahoe, the National Forests, and historical locations such as Old Town Auburn.

Placer County also serves as a bedroom community for the City of Sacramento, the State Capitol, which is directly to the west. Some commuters travel as far as the San Francisco Bay area. Placer County continues to grow in population as the County's pleasant environment and convenient location attract new residents.

Native Americans

Over the millennia of Sierra Nevada prehistory, the area to become Placer County was occupied by a number of Native American peoples, some unknown to us today and others surviving to the present. For at least one thousand years prior to 1848, when the discovery of gold attracted outsiders by the thousands, Placer County was home to two major groups: the Nisenan in the west and the Washoe in the east.



Native American Lands 1848

Containing many of the environmental zones found throughout the state, the region supported an abundance and variety of game, waterfowl, fish, and plants. This diversity provided the native peoples with all the food necessary for a wholesome and varied diet and all the material required for a variety of tools, implements, and structures. To this material abundance they brought resourcefulness and ingenuity, artistry and entertainments, and a basically harmonious world view, resulting in richly satisfying lifeways.

Both the Nisenan and Washoe were hunter-gatherers, who developed and perfected a variety of techniques for extracting animal, vegetable, and mineral resources, modifying them to their needs, and often storing them for later use. Many time-worn strategies were shared by both groups, while innovations also passed freely between them and their neighbors. Nonetheless, there were strong contrasts between the Nisenan and Washoe--many of them due to the different territories they controlled.

The Nisenan

Language and Territory

The land from west of the Sierra crest to the west bank of the Sacramento River, including the drainages of the Yuba, Bear, and American rivers, was held by people who spoke a language known as Nisenan (meaning 'from among us' or 'of our side'), whom anthropologists also call Southern Maidu. Other Maiduan languages were spoken in the north, up to the southern slopes of Mt. Lassen in the northwest and past Eagle Lake in the northeast. The Maiduan language family has been classified as a member of the Penutian language stock, which includes other languages spoken nearby, such as Patwin (in the lower Sacramento Valley), Sierra Miwok (in the hills and mountains to the south), Plains Miwok (in the northern San Joaquin Valley), and Yokuts (in the lower San Joaquin Valley). Speakers of the Penutian languages are believed to have entered California from the Columbia Plateau to the north, coming in successive waves beginning about 4500 years ago.

There were at least three major dialects of the Nisenan language: Valley Nisenan and Northern Hill and Southern Hill Nisenan. Several subdialects are known for the Hill Nisenan within the County, including those of the Auburn, Clipper Gap, and Colfax areas. Dialects and subdialects reflect the closeness of a given group--the less time spent with outsiders, the more distinctive a group's speech becomes. Just as with dialects of American English, however, Nisenan dialects were mutually understandable.

The banks of the Sacramento River housed the large settlements of the Valley Nisenan, with populations of several hundred people each, while the plains between the river and the foothills were relatively unsettled, used primarily for hunting by both hill and valley groups. Large parties of men from the Auburn group would make fishing trips to the Sacramento, while the group also controlled a salt spring near Roseville and maintained an acorn-collecting camp in that vicinity. A less amicable "No Man's Land" – from the Sierra crest down to about Emigrant Gap-existed between the Nisenan and the Washoe; some accounts refer to frequent fighting between the two groups in this area, while others describe friendly encounters.

Settlement and Subsistence

The mild to moderate winters, abundant year-round water sources, and relatively accessible terrain of the Hill Nisenan territory supported relatively large, semi-permanent villages, some with populations of several hundred people. The villages were usually placed on ridges and large flats along major streams, while hamlets occupied by extended families of a dozen or more people were located in favored spots in the vicinity. At winter villages and hamlets, Hill Nisenan houses were conical-shaped and covered with slabs of bark, skins, and brush. Acorn granaries were often present, and bedrock milling stations (colloquially known as Indian Grinding Rocks) were present at virtually

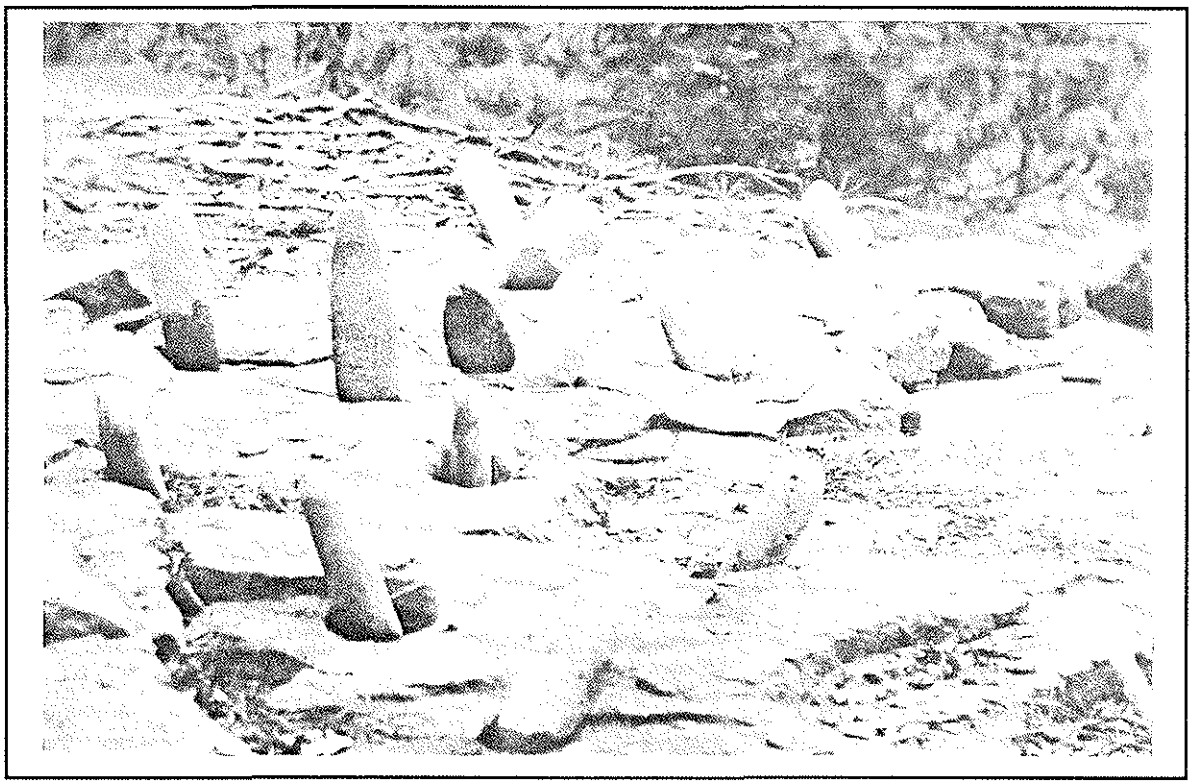
every settlement. Other locations of importance, each given specific names and known to most members of the tribelet, included summer camps, quarries, ceremonial grounds, trading sites, fishing stations, cemeteries, river crossings, and battlegrounds.

The combination of principal village and related hamlets formed a village community, or "tribelet," which held a fixed territory and acted as a group under the leadership of a headman. While extended families acted on their own on more individual matters, a headman presided over such group decisions as the nature and timing of group hunts or collection trips and relations with other groups--including trading expeditions and ceremonies. Ceremonial dances to celebrate seasonal events and honor deities were held in the large semisubterranean dance house, which distinguished the principal village from its satellites; 27 such villages were identified in the Auburn-Colfax area by Littlejohn, an ethnographer of the 1920s, each presumably representing a tribelet center. Only a handful of these villages would have been occupied at the same time; people regularly shifted residence every few years, particularly after the death of a headman or another person of importance. From archaeological study, however, it is clear that most of these locations were reoccupied, with abandonment of such short duration that the material remains appear to represent one continuous occupation, often for many centuries. Information on the size of each tribelet's territory is lost, and it is now unclear where a particular central area of influence began or ended.

In the Sacramento Valley, the low lands along the rivers were flooded every year, creating marshes in the basins along the Sacramento and Feather rivers. Besides the fish and mollusks that the rivers, sloughs, and lakes yielded, the great seasonal marshes attracted immense flocks of water fowl during the spring and fall migrations, who were said to have blackened the sky in their flight. With their permanent villages just upslope from these great flood basins, the Hill Nisenan had an array of game animals to hunt within a short distance of their homes: Tule elk, deer, and predators such as the grizzly bear focused on these upper margins of the basin for at least a few months each year during the winter and spring. The drier foothills surrounding their villages supported a diversity of oaks and other nut-bearing trees; berries, bulbs, and greens; and large and small game were also plentiful.

There were several choices when the summer heat set in: families could move to the uplands, which were just experiencing a "spring" renewal, or to the deep river canyons, where fish, small game, and water-loving plant resources were readily available year round. While some groups travelled, others might occupy the main village on through the summer, taking advantage of the variety of foothill crops that ripened in this season. Throughout Nisenan territory, small camp sites were established along a network of trails; larger base camps were revisited year after year at their upland or riverine destinations. Typically, the Auburn group fished, hunted, and gathered around Georgetown in El Dorado County, while the Colfax group summered around Gold Run and Dutch Flat. The tenuous relationships between the Nisenan and the Washoe were said to have restricted the former's use of the highest elevations, although these groups often met to trade goods from their respective regions, and the Washoe sometimes visited the lower western slopes to gather acorns. The Washoe exchanged obsidian, salt, pine nuts, rabbit skins, dried fish, and seed beaters for the Nisenan's acorns and shells, the latter supplied to the hill people by the Patwin and Maidu.

Acorns, while not the only Nisenan staple, were a major and regular source of sustenance. They were gathered in late fall as a group activity, when extended families or whole villages would work together, the men knocking the acorns to the ground and the women and children gathering and hauling them by the basketful. Grinding the nuts into a fine flour on the bedrock mortar, leaching the flour, and cooking it into mush or soups was an activity that likely consumed at least some part of every woman's day.



Bedrock Mortar Site, Bird's Valley
(photograph courtesy Placer County Department of Museums)

Post-Contact

Located away from the mission influence of the late 18th and early 19th centuries, Nisenan traditional lifeways remained relatively intact longer than central coastal or bay groups. The first severe effect of Euroamerican presence in California resulted from a series of epidemics in the early 1830s, which swept through the Central Valley from the Tulare Basin north to Oroville. While Hill Nisenan were not directly affected, these diseases killed up to 75 percent of their Valley Nisenan neighbors, in some cases consuming whole villages. Captain John Sutter had little trouble gaining cooperation from the few surviving Valley Nisenan when he arrived in their territory in 1839, removing many of the survivors to his fort for use as laborers. With the discovery of gold at Coloma in 1848, the disruption of traditional Hill Nisenan lifeways began abruptly and was virtually complete within a few years. Overt killings and disease reduced populations, while traditional hunting and gathering areas were overrun by miners, watercourses were diverted, and old settlements were taken over by outsiders.

Despite more than a century of disruption, the large number of active Nisenan groups in the Auburn area attest to the persistence of native peoples in Placer County. Nisenan people today are concertedly working to preserve cultural information and to protect the archaeological sites that reflect their heritage.

The Washoe

Language and Territory

The land east of the Sierran crest was occupied by the Washoe, whose territory included all of Lake Tahoe and the lands north to Honey Lake and south to the northern headwaters of the Tuolumne River; in the east, Washoe territory extended more than 20 miles into Nevada to include the Washoe, Carson, and Antelope valleys at the base of the Sierra range. Placer County

abundant water and resource diversity are present.

Much of the archaeological work undertaken within Placer County has focused on basins of the eastern Sierra slopes at Truckee and Lake Tahoe, which were first scientifically excavated in the 1950s. A few projectile points (stone tools for spears or darts) have been found that represent ancient styles used in the Great Basin, suggesting use of this area of the Sierra around the time of the Western Pluvial Lakes Tradition, as does a radiocarbon date (more than 8000 years ago) from a site just east of Placer County. While these early people appear to have focused on big game (perhaps extinct megafauna), they also used the variety of small game and plant food as people have throughout the region's occupation. Unlike the people who followed them, however, it appears that they did not grind seeds, live on sites long enough to accumulate midden deposits, construct permanent structures, or store resources. This earliest stage of eastern Sierra use remains virtually unknown. From the limited evidence to date, it appears that the high region was used for hunting by special task groups and seldom, if ever, was occupied by residential groups.

The Martis Complex

Detailed evidence for prehistoric use of the region begins with an archaeological culture termed the Martis Complex at approximately 4000 years before present and continuing to approximately 1500 years ago. This complex, which spread throughout the northern Sierra, was first identified at archaeological site CA-PLA-5, on Martis Creek in eastern Placer County. The general picture of Martis times indicates a more settled lifeway, with the same base camps occupied repeatedly over a long time period; intensive use is suggested by excavated housepits, tool caches, hearths, and occasional human burials. Residential sites were usually situated on valley margins adjacent to a wide range of resources; hot springs were especially favored locations. Field camps are often found on saddles and ridges overlooking streams. Intensive use of basalt quarries in eastern Placer County appears to date to this time period. Artifacts associated with the Martis Complex include roughly shaped projectile points of basalt, handstones and millingstones used for seed grinding, as well as the bowl mortar and pestle. While several Martis sites have been excavated, archaeologists continue to debate the timing, nature, and origins of this early culture.

On the western slopes and valley margins of Placer County, far fewer excavations have been conducted, and there is little evidence of early use. An exception is the Spring Garden Ravine site (CA-PLA-101), investigated in 1970 as part of the cultural resources studies for the Auburn Dam. Here, an assemblage of Martis materials was radiocarbon dated to approximately 3500 years ago, but few questions regarding the early use of the western Sierra have been addressed.

The Late Prehistoric Period

About 1500 years ago the Martis Complex in the east, was replaced by the Kings Beach Phase, an archaeological culture exhibiting greater mobility and believed to represent the ancestral Washoe. The phase is represented by small projectile points, usually of obsidian, representing the introduction of the bow and arrow. Elaborate food-processing equipment suggests emphasis on plant food and the beginning of pinyon pine exploitation. Major winter sites used during Martis times continued to be occupied. By about 900 years ago, however, these camps were used with less frequency by smaller groups, as suggested by the smaller housepits and a lack of other features of indicative of extended stays. The distinctive change in settlement and resource use of the Kings Beach Phase may have resulted in part from environmental change, with drier conditions reducing the resource base in the Lake Tahoe vicinity, while rising population levels encouraged greater movement.

Archaeologists have hypothesized that there was a direct line between Martis Complex people and those of the Kings Beach Phase. While evidence of the Martis Complex is

found throughout the northern Sierra, it is believed that by Kings Beach times Maiduan peoples (including the Nisenan) controlled their historic-period territory. This archaeological evidence, still unverified, is given support by the linguistic evidence noted above that suggests that the Washoe may have been displaced by Maiduan peoples. One hypothesis proposes that the same environmental shift that had reduced the resources around Lake Tahoe allowed an increase in the distribution of oaks, enhancing the value of the Sierran slopes to the acorn-using Maidu.

A few excavated sites in western Placer County have yielded materials representing the ancestral Nisenan of the late prehistoric period, with small projectile points suited for arrows (after about A.D. 700) and relatively abundant mortars and pestles, including bedrock milling features (after about A.D. 1500). An elaborate exchange network also marked the late prehistoric throughout central California, with shell beads forming a standard currency. Archaeologically, this exchange can be seen in exotic obsidians from the eastern Sierra and the North Coast Ranges, coastal shells, and distinctive projectile points showing up one hundred miles or more from their source. Ethnographies inform us that perishable goods were traded as well, with quantities of bows, feathers, basketry materials, furs, as well as exotic food goods exchanged between groups.

An indication of the limited archaeological investigations in western Placer County is the lack of a name for the late-period prehistoric complex, unlike the Kings Beach Phase of the east, or the Mesilla Phase in the foothills to the north. While scores of prehistoric sites were recorded during the series of archaeological surveys for the Auburn Dam during the 1960s, at most of these sites the indestructible bedrock mortar is all that survived the combination of gold-mining activities and natural flooding of the river canyon.

Historic Period

Early Exploration And Settlement

Euroamerican presence in the area now defined as California dates to the 1540s when explorers ventured into this region under the flag of Spain. The Spanish missions brought the first documented historic-period settlement beginning in 1769 and continuing into the early 1820s. The missions of New Spain housed few European residents, but rather drew from California's native population both for labor and for converts. When New Spain rebelled against Spanish rule in 1822 and formed the Republic of Mexico, former mission lands were granted to settlers as ranchos and much of Alta California opened to more intensive settlement by Mexicans as well as European and American settlers.

The earliest documented overland travel expedition from the eastern United States into Alta California was that of Jedediah Strong Smith, who made the journey in 1826. Early in 1844, John Charles Fremont, a U.S. Army officer, led an exploring expedition into Alta California. On February 14th, Fremont and Charles Preuss made the first documented observation of Lake Tahoe. They mapped its location and assigned it the name "mountain lake." The name was soon changed to Lake Bonplaud, after the French botanist who accompanied the expedition.

As early as 1841, settlers made the arduous journey to the west. In that year, the Bidwell-Bartleson Party became the first organized company of settlers to make the trip overland to California. Routes to California remained obscure into the late 1840s, and the earliest emigrants endured extreme hardships traversing the Sierra Nevada. The first wagons to pass through Placer County's Emigrant Gap arrived there in 1845. From this location, emigrants had to lower their wagons to the floor of the Bear River Valley before they could continue their journey into the Central Valley. The following year, the saga of the infamous Donner Party unfolded in neighboring Nevada County when the winter's first snow

blocked the route through Donner Pass, a landform at the present-day Placer-Nevada County line.

Emigrant Gap is California Historical Landmark No. 403.

The first documented historical settlement in Placer County occurred in 1844 when French sailor Theodore Sicard was granted Sicard's Ranch by the Mexican government. The following year, Sicard constructed an adobe residence on the rancho located in the Sacramento Valley along the Bear River near Johnson's Crossing. In October 1846, fellow Frenchman Claude Chana arrived at Sicard's Ranch and that fall, Sicard and Chana planted orchards that are regarded as the pioneer commercial orchards of the Sacramento Valley. The site of this early activity was later inundated by debris flowing downstream from hydraulic mining operations in the gold country.

The Gold Rush

The most pivotal event in California history came on January 24, 1848 when James Wilson Marshall discovered gold at Sutter's Mill along the South Fork of the American River. Nine days later, before either party had knowledge of Marshall's discovery near Coloma, the Mexican government ceded all lands of Alta California to the United States, as a concession of the Mexican War.

There was not an immediate and widespread response to the discovery at Sutter's Mill; initial reports were viewed with great skepticism. The Gold Rush of 1848 was set into motion only after curious gold seekers visited Coloma and as other discoveries were made. One such discovery occurred on May 16, 1848 when Claude Chana was returning to Sicard's Ranch from a visit to the diggings at Coloma. As Chana and his team made their way through what would later be known as Auburn Ravine, he discovered gold near present-day Ophir. In the wake of this and other discoveries, gold nuggets began to show up in stores in the Central Valley and on the coast. By June of 1848, the population of California's principal cities was drastically reduced as hoards rushed to the gold fields. By the fall of 1848, word had reached the eastern United States and by spring of the following year, the Gold Rush of 1849 was on.

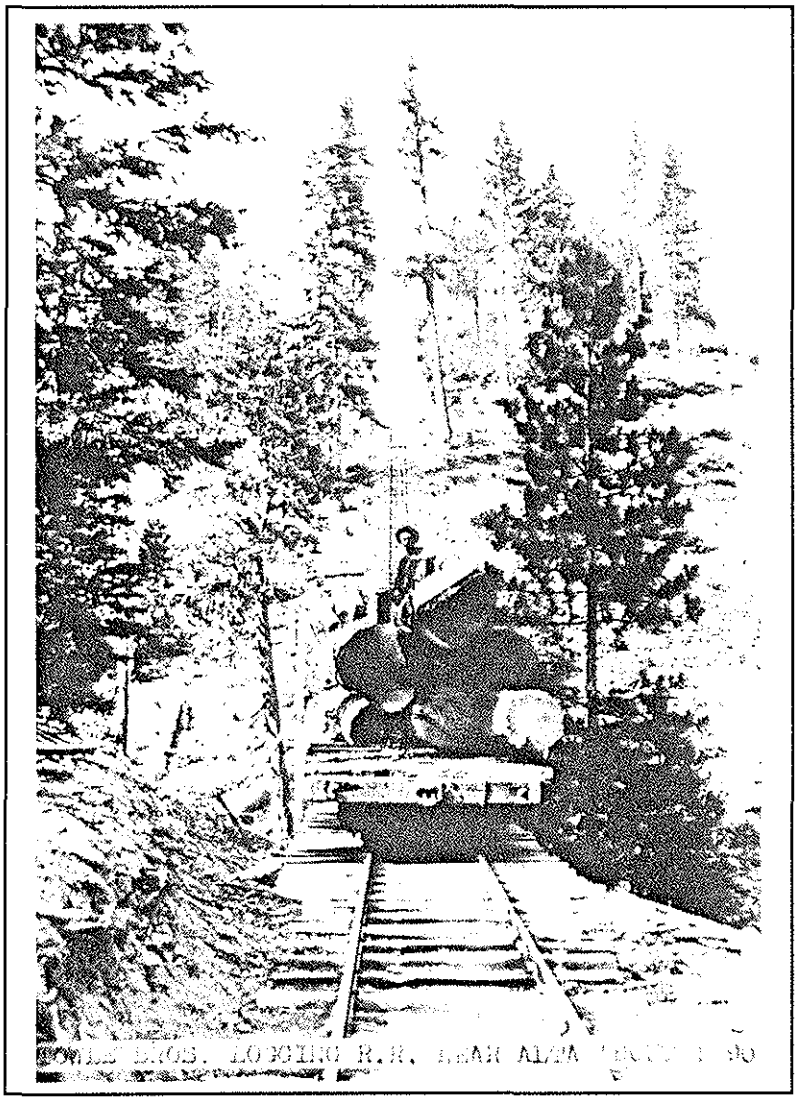
The influx of 49ers into California during the Gold Rush is said to have been the greatest single population shift to one location on the North American continent. In May of 1848, the gold fields hosted only a few hundred miners. Two months later, that number had grown to 4,000. With would-be miners swarming from Oregon, Mexico, and throughout California, the number of miners in the gold fields had reached 10,000 by the close of 1848. In 1849, nearly 90,000 gold-seekers came to California and the growth continued. California was admitted to the Union on September 9, 1850. The new state's population grew from just over 100,000 in 1850 to over 200,000 in 1852.

Early emigrants had few choices for routes to the gold fields and many came by way of the California Trail, also known as the Overland Emigrant Trail. The earliest routes were marked by trail blazers, showing the way for those who would follow. The constant flow of traffic over the trail during the Gold Rush converted the vague paths of early settlers into well-established routes. At Big Bend, rock outcrops near the crest of the Sierras still bear the scars and stains of the thousands of wagon wheels that rolled over the summit.

The Overland Emigrant Trail in Placer County is California Historical Landmark No. 799-2.

Early Mining Towns And The Growth Of The Gold Country

For nearly every strike in the gold fields, there grew a camp. In the years following the discovery of gold, thousands of mining camps and towns were established throughout the gold country. In his landmark study, California Gold Camps, Erwin G. Gudde lists 406 mining camps and districts in Placer County.

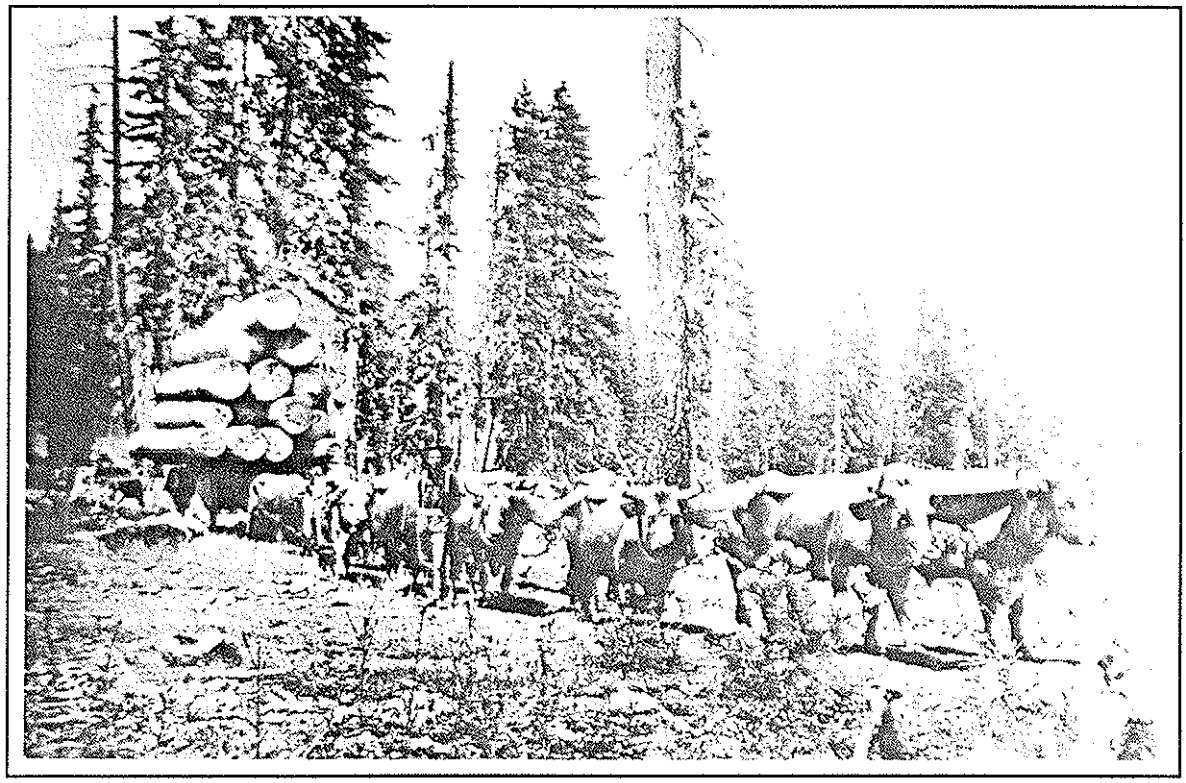


The Towle Brothers Logging Railroad, near Alta, about 1890
(photograph courtesy Placer County Department of Museums)

Lake Tahoe Region and Tahoe City

In 1863, Reverend T. Starr King christened Lake Tahoe with its current name after the Washoe term for "lake." The same year marked the discovery of gold and silver deposits in what are now Squaw and Martis valleys. By this time, many of Placer County's earliest boom towns had collapsed, and many of the County's other mining districts, such as Forest Hill and Last Chance, reported a mass exodus of their residents to the new diggings near Lake Tahoe. At Squaw Valley, several boom towns were established including Knoxville and Claraville. Other towns like Elizabethtown, Centerville, Modiosho, and Neptune City housed miners working in Martis Valley. Just two years later, these strikes had worked out and Tahoe's gold rush was over.

When the mining boom started in 1863, there was an immediate need for building materials and Tahoe City emerged that year as a lumber center. Little development occurred here at first. The first public building, the Tahoe House, was erected in 1864 by William Pomin. The same year, Augustus Perry operated the first steam ship, "The Governor Blaisdel," on Lake Tahoe, heralding the



Logging near Lake Tahoe
(photograph courtesy Placer County Department of Museums)

beginning of the lake's maritime history. The following year, Tahoe City residents constructed a 200-foot wharf at the town site and the settlement began to grow. Tahoe City was recorded as an official town in 1868.

New economic enterprises were established along the lakeshore in the late 1860s and early 1870s and the Tahoe area entered its first period of real growth. In 1868, Jeremiah Hurley and Prentiss Pringle started the Tahoe Fishery, and the next year William Campbell and Henry Burke opened the Warm Springs Hotel in the fledgling community of Warm Springs, now Brockway. The first outlet gates on the Truckee River, Lake Tahoe's only outlet, were constructed at Tahoe City in 1870 to regulate the flow of water. Unregulated, the waters of the Truckee River flow into the neighboring State of Nevada. The outlet gates, which restricted water flow, have been a source of controversy since 1870. The outlet gates, replaced in 1913, are listed on the National Register of Historic Places.

Much of the initial growth of the Tahoe area, though, was brought about by the activities of a local businessman named Duane L. Bliss. In 1871, Bliss and some business partners purchased timber land in the Tahoe area and two years later established a successful timber operation called Bliss, Carson & Tahoe Fluming and Lumber Company. Bliss and his associates also organized Bliss' Lake Tahoe Transportation and Railway Company that year. Constructed initially for freight purposes, the rail line brought industry to the area and opened the lake to tourism. The rail line operated from 1873 until 1898. In a 1941 article published in the Tahoe Tattler, Gurney Breckenfeld reports on the influence of Bliss' companies:

In those 25 years the Bliss enterprises logged over 50,000 acres and produced 750 million board feet and 500,000 cords of wood, built three steamers, two sawmills, 13 miles of railroad, 25 miles of V flume (invented to shoot logs from Carson summit to lumber yards in the Nevada valley three thousand feet below.) The strapping young industry brought dairying, and other businesses flocking to Tahoe.

In 1873, the first telegraph line was installed to Tahoe City. With lake settlements linked by rail and by telegraph, Lake Tahoe was no longer an isolated location. Dairy operations, fisheries, and hay ranches became more numerous. The summer and winter tourism industry, which has accounted for most of the Tahoe region's growth, was not fully underway until the early 1900s.

New England Mills (Weimar)

One of the many lumber mills in operation along Moody Ridge was New England Mills, which was established by Captain Starbuck and his partners to supply the railroad. The railroad formally established a station here about 1877 and applied the name New England Mills. A small community grew up around the station and, when a post office was established there in 1886, the name was changed to Weimar, a distortion of the name of a local Native American. The site of New England Mills is just north of the Weimar Institute, established as the Weimar Tuberculosis Sanitorium, or the Eleven Counties Sanitorium, on November 17, 1919. Nothing remains of New England Mills.

Iron Mining

Hotaling

Another extractive industry was established at the iron works at Hotaling. Four years after the 1865 opening of Clipper Gap Station along the Central Pacific line, Brown and Company began extracting trace iron ore. When ore samples were evaluated in San Francisco, they were deemed the purest ore yet worked in the state. In 1874, Mr. P. Fitzhue examined the deposits and began extraction under the name of Iron Mountain Iron Company. In 1879, Fitzhue sold the company to Egbert Judson, Anson P. Hotaling, and Irving M. Scott, who established the California Iron Company.

In the first year of operation as the California Iron Company, bridges, dams, roads, houses, outbuildings, and an extensive blast furnace were constructed. A village grew up around the iron works and took the name Hotaling from one of the owners. The Company built a school and a store and, in September of 1881, opened the Hotaling post office. The iron works required coal for fuel and the company constructed as many as 26 brick kilns on both sides of the Bear River and began to clear the forests for coal production. The railroad was the company's prime customer and bought pig iron as soon as it was produced.

Hotaling was consumed by fire on September 10, 1882. All efforts to control the flames were in vain and the fire destroyed not only the blast furnace but all of the stockpiled coke. In February 1883, six carloads of fire-proof bricks arrived at Hotaling, and crews began to rebuild. That May the new iron works opened and business looked as promising as the first operation. By the early 1890s, it had become too costly to transport iron to market and the plant was removed by 1892. No buildings remain of the California Iron Company at Hotaling.

Fruit Industry

The industry that has come to characterize western Placer County is the production of fruit. With a temperate climatic belt extending between Auburn and the Sacramento Valley and, with the availability of rail transportation, towns like Newcastle and Loomis rose to their zenith. Other efforts, like the ill-fated Placer County Citrus Colony, were less successful.

the Mountain Quarries Bridge (also called the No-Hands Bridge) was, upon its completion, the longest span concrete arch railroad bridge owned by a private concern. The rail lines were removed around 1940, but the bridge remains open to pedestrian and equestrian traffic.

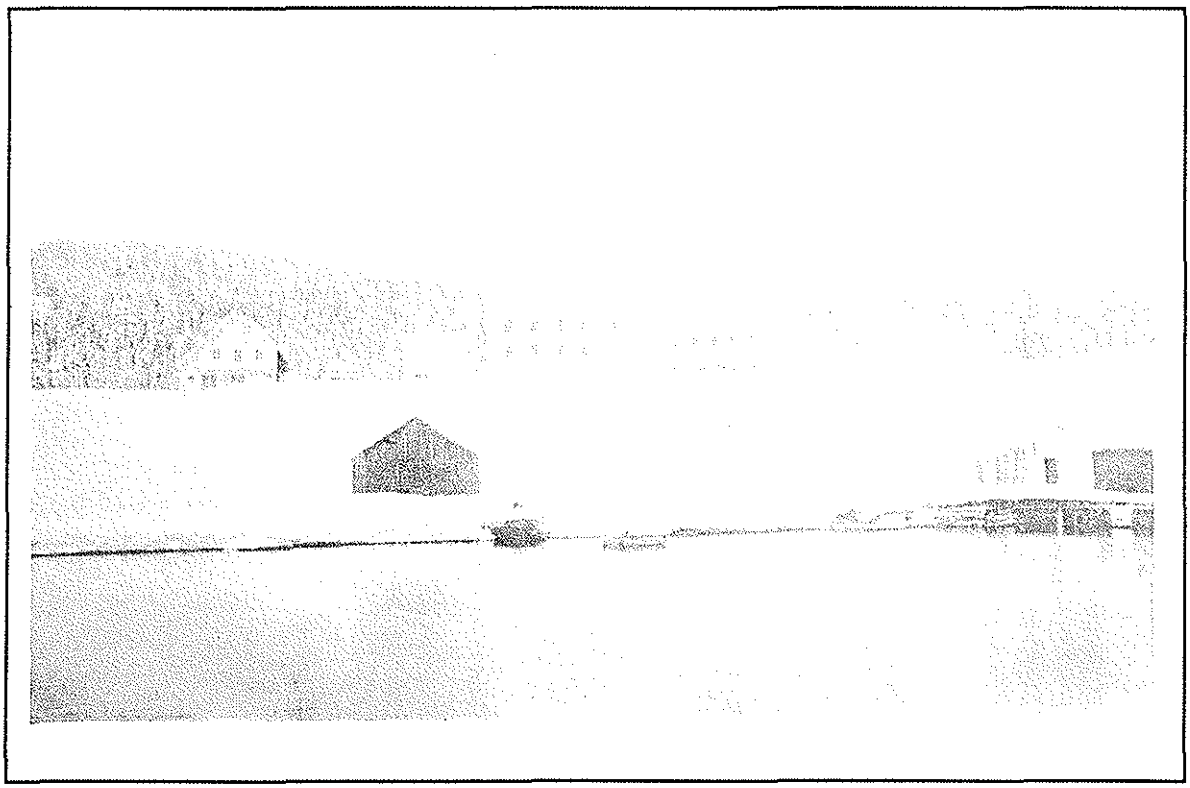
The Mountain Quarries Bridge is listed with the Historic American Engineering Record (HAER) and has been designated a Historic Civil Engineering Landmark by the American Society of Civil Engineers.

Tourism And Resorts

Placer County's favorable climate was recognized early as ideal for recreational activity. Summer tourism at Lake Tahoe was underway as early as the 1870s. In the following decades, rail transportation, and later automotive transportation, opened Placer County as a convenient get-away. Since those earliest years, tourism has remained an important economic mainstay of Placer County and is, today, one of its most important attractions.

Lake Tahoe and Tahoe City

Lake Tahoe's resort business is said to have started in 1871, when A.J. Bayley opened his celebrated Grand Central Hotel. The tourist trade remained limited to the summer months at first and in 1880, Tahoe City had only 32 permanent residents. Year-round tourism did not become common until the 1890s. Duane Bliss, who had initiated the Tahoe area's timber industry, also brought prosperity to the local tourism economy. By the 1890s, Nevada's Comstock Lode had been worked out and the local timber industry was beginning to fail. Bliss and his partners moved their railroad headquarters and yards



A.J. Bayley's Grand Central Hotel, Tahoe City
(photograph courtesy Placer County Department of Museums)

to Tahoe City. They constructed a narrow-gauge rail line to Truckee and then opened the Tahoe Tavern. With a link to the Southern Pacific line, winter tourism at Lake Tahoe began to increase.

In the 1920s, automotive traffic reached Lake Tahoe and both summer and winter tourism intensified. New communities began to emerge at this time, including Kings Beach and Homewood. In 1928, the Auburn Ski Club was started at Lake Tahoe and 3 years later, the Tahoe area's first ski jump was constructed 1 mile south of Tahoe City. The popularity of winter sports at Lake Tahoe has continued to grow since the 1930s. In 1960, Squaw Valley was selected as the site for the Eighth Olympic Winter Games, and this site is listed on the National Register of Historic Places.

Applegate

At the transition zone between the foothills and the Sierra Nevada, the mild climate of Applegate was found ideal and one of the earliest summer resort businesses of western Placer County began here. Using the buildings formerly occupied by a local fraternal order, the Oaks Resort was founded in the 1890s, to the southeast of Applegate. Today, the former resort is a Christian retreat. Other resort communities in the Applegate area included Pinewood, or Warham Place, and Walmond. A 1973 article from Placer GOLD, recalls the resort business:

> *...each [resort] offered the conveniences of the city - tennis courts, porcelain bathrooms, swimming pools and dance pavillions [sic] - plus the peace and serenity of the country. People flocked to Applegate to "sleep in the open air", drink spring water and perhaps pan a little gold. They would come on the train with their trunks where they were met by carriages from each resort. During the busy summers, college students would come up to work as musicians in dance bands and [as] table waiters.*

Other Resorts and Resort Communities

In the 1920s and '30s, numerous other resorts were established along new roads between the Sierra foothills and Lake Tahoe. A resort community grew up around Lake Alta. This artificial lake, once a holding pond for hydraulic mining, opened as a resort around 1900. Since that time, the Lake Alta area has remained relatively undisturbed and still functions as a summer retreat.

Other resorts include the Rainbow Lodge which opened in 1921 along the Royal Gorge. The Rainbow Lodge still serves as a half-way stop between Auburn and Lake Tahoe. Another resort community was Baxter's. Located along Highway 40, Baxter's thrived as a small resort in the 1930s. Most of the buildings of this community, later known as Baxter, stood until 1991 when they were demolished. Only the Baxter Cafe and the now-defunct Baxter Hotel remain.

Auburn

Today, Auburn is a commercial center but many visitors are drawn to Auburn as a historical landmark. The durable buildings of Auburn's Old Town were built to withstand fires but have also withstood the test of time. Perhaps better than any town or historical district in Placer County, Old Town Auburn evokes the feeling of the County's gold mining history.

For a synopsis of Placer County's history, see Time Line of Placer County Events, Appendix H.

Chambers 2007

observed in the project area included mule deer, black bear, and a variety of small mammals and birds typical to this subalpine environment.

The Lake Forest ECP study area constitutes the majority of Sections 32 and 33, Township 16 North, Range 17 East. Smaller portions of the study area are located in Sections 28 and 29, Township 16 North, Range 17 East, and in Sections 4 and 5 of Township 15 North, Range 17 East. The study area appears on the Kings Beach, California-Nevada (1992), USGS 7.5-minute quadrangle.

Area B is located in the westernmost portion of the Lake Forest ECP study area and consists of approximately 625 acres. The area is located mostly in Section 32 of Township 16 North, Range 17 East, with smaller portions located in Sections 29, 31, and 33, and in Section 4 of Township 15 North, Range 17 East.

3.0 CULTURAL SETTING

3.1 Prehistory

Evidence of early Post-Pleistocene adaptations was not observed in the project area and will, therefore, not be discussed in this report. A detailed discussion of the early cultural sequence and related adaptations in this region can be found in Wallace (1978). The archaeology of the Sierra Nevada was first outlined by Heizer and Elsasser (1953). Two cultural complexes, the Martis Complex and the Kings Beach Complex, were defined and are typically applied to characterize the prehistory of the Lake Tahoe area. The following discussion of the local prehistory for the Eastern Sierra Front was derived mainly from discussions found in Elston (1982), Miller and Elston (1979), Zeier (1992), and Wallace (1978).

The Martis Complex, which coincides temporally with the early and middle Archaic hunting and gathering adaptation, has been described as a high-elevation variant of the seasonal hunting and seed gathering culture that occupied the area east of the main crest of the Sierra Nevada Range. Zeier (1992:9) suggests that the Martis Complex occupation of the Eastern Sierra Front ranged from 7,000 to 1,500 years before present (BP).

The Spooner Phase (7,000-4,000 BP) coincides with the regional Early Archaic adaptive strategy. Sites dating to this phase typically contain flaked stone tools of light-colored basalts and projectile points belonging to the Pinto and Humboldt Series.

Early Martis Phase (4,000-3,500 BP) sites are characterized by the presence of large contracting stemmed points belonging to the Elko and Martis Series. A continued use of light-colored basalts is evident for the production of flaked stone tools. The reuse of habitation sites and longer seasonal occupations of optimal locations becomes evident during this phase and is manifest in the appearance of steep-sided house pits (Zeier 1992).

Middle Martis Phase (3,500-2,500 BP) sites are characterized by the presence of Steamboat points, large basalt bifaces, and other flaked stone tools produced from light-colored basalt. Use of steep-sided house pits for longer term habitation sites persists in this phase.

The Late Martis Phase (2,500-1,500 BP) evidences a continuation of the Early and Middle Martis Phase adaptations, with continued use of the steep-walled house pit structures, a focus on the use of basalt for flaked stone tool production, and a shift to increased production of corner-notched and eared Elko and Martis points. The Martis Period settlement pattern is generally characterized by a variety of site types reflecting an increase in population density, but with continued reliance on seasonal mobility to take advantage of a diverse range of resources.

The Late Archaic Period, represented on the Eastern Sierra Front by the Kings Beach Phase (1,500 BP to Historic Times), represents the development of subsistence and settlement

strategies corresponding with a decrease in lateral mobility and a continued increase in population density (Zeier 1992). Early Kings Beach Phase (1,500-800 BP) sites are recognized by the dominance of Rosegate points in their lithic artifact assemblages. Desert Side-notched and Cottonwood Series points dominate assemblages of Late Kings Beach Phase (800 BP to Historic Times) sites. Evidence of the settlement and subsistence patterns that developed during the Kings Beach Phase are often equated with the occupation of the Tahoe area by the Washoe at this time (Zeier 1992).

3.2 Ethnography

The project area falls within the center of Washoe territory, with primary use by the northern Washoe. The northern Washoe traditionally inhabited areas around present day Reno, Truckee, Loyalton, the Sierra Valley, Long Valley, and Honey Lake, and are acknowledged in the most general sense to have known the most about Tahoe's north shore. D'Azevedo's northern contacts indicated less emphasis on Lake Tahoe, and he suggests that the northern Washoe may have withdrawn relatively early in the post-contact period and that Lake Tahoe may have retained more relative importance to the eastern Washoe (based out of Carson Valley) and the southern Washoe (centered around Woodfords) (Rucks 1996:2).

Freed (1966:81, quoted in Rucks 1996:2) also observed that the north quadrant of Lake Tahoe was best known to and used by the northern Washoe. More specifically, his Washoe contacts stated that Washoe from Reno and Carson City camped "all summer" at Watson Creek. One campsite on Watson Creek, *masundauwO'tha* (*masun*, slow; *wO'tha*, river) was a short distance from the lake. Besides fishing, the Washoe hunted ground squirrels and woodchucks, and gathered several kinds of seeds (*mA'sum*, pigweed seed, *cugllatsi*, and *sEsme'*). They also collected mushrooms, locusts, and a kind of berry called *k'ila'tsim*. Another encampment at the mouth of Griff Creek, *gumlE'phEl wO'tha*, was used only as a resting spot and not as a full-fledged camping site. At *diphlkhwO'tha* (*diphlkh*, white paint; *wO'tha*, river), near Dollar Point, a creek once ran and the Washoe obtained fish, porcupine berries, sunflower seeds, *cu'wE'thUkh*, and white clay with which they decorated themselves. Scott (1957:351, 496) claims that Dollar Point was called Chinquapin by the Washoe, so named for the scrub trees with edible nuts (called Chinquapin) they found growing there. Whitefish were taken at a camp, *wO'thanamln*, near the mouth of Burton Creek. Grasshoppers were collected in nearby meadows. The whitefish run here was earlier than Trout Creek (along Tahoe's south shore). Large green tree worms were collected and roasted in hot sand. A camp, *daubayodu'l'* (translated as "running over"), was located on a small hill in Tahoe City. It has since been destroyed by the construction of Highway 89. The Washoe fished and collected grasshoppers, which were roasted over hot coals. About a mile north of here on the lakeshore was a cave where the Washoe collected swallow eggs. The campsite, which was near this cave, is normally under water. The Washoe named the Truckee River *debeyumewe* or "coming out" (d'Azevedo 1956:51). In addition to the sites named by Freed (1966), a 1984 map produced by the Tahoe Regional Planning Agency (TRPA) also shows a "campsite" above the Tahoe City Golf Course. Lekisch (1988:133) notes a Washoe and Paiute (?) trail that led from Martis Valley, over the divide, and to Lake Tahoe in the Tahoe Vista area. This route may have roughly followed the alignment of Road 16N63 (05-19-733).

The Gatekeepers Museum site in Tahoe City was an important locale where Lake Tahoe was honored as the source of the Truckee River and Pyramid Lake. Here, the Washoe paid respect and gave thanks for Tahoe's waters, acknowledging the importance of outflow of the lake to nourish the desert "and all those people below." Elders continue to pray for renewal of the lake at this location. After Euroamerican "encroachment," the legal term the federal government used to describe the process by which the Washoe gradually lost their territory (Rucks 1996:1), ca. 1848, the Washoe continued to trek to the lake to harvest plant resources, fish, and work as domestic laborers and game guides for resorts.

The Washoe have developed a Comprehensive Land Use Plan (Washoe Tribal Council 1994) that includes goals of reestablishing a presence within the Lake Tahoe Basin and re-vitalizing Washoe heritage and cultural knowledge, including the harvest and care of traditional plant resources and the protection of traditional properties within the cultural landscape (Rucks 1996:3). In concert with Washoe goals, the Forest Service, as part of ecosystem management (USDA 1995a, 1995b) and in order to address federal responsibilities to tribal sovereign governments (USDA 1995c), has engendered interest in the identification of anthropogenic landscapes resulting from Washoe land-management practices. Plans include the re-introduction of traditional plant gathering practices by Washoe people and the collection of oral histories relevant to land use, resource use and management, diet, social and economic history, organization and beliefs (Rucks 1996:3). These activities are relevant to the explanation, interpretation, evaluation, and management of archaeological remains in the Lake Tahoe Basin and are critical for modeling the Lake Tahoe ecosystem (e.g., Rucks 1995; Walsh 1995).

3.3 History

The study area stands adjacent to several north shore communities, including Tahoe City, Lake Forest, Dollar Point, Carnelian Bay, Agate Bay, Tahoe Vista, Kings Beach, Brockway, and Crystal Bay. Events surrounding the formation and growth of these settlements have bearing on land use within the study area.

Lake Forest Settlement

The first settlement of the Lake Forest area came around 1859, when Homer D. Burton laid claim to the lakeside meadowlands of the creek, which now bears his name (Van Etten 1987). Burton named his Island Farm after a small hill exposed during low-water periods on the terminal end of a marshy spit of land (Scott 1973:164). The 1874 von Leicht-Hoffmann map has the word "Island" at this location. Wheeler's 1876 map shows "Island House." Here, Burton developed and cultivated garden vegetables, buckwheat, and timothy hay. Burton's Island Farm could also accommodate upwards of 30 guests. Two of Tahoe's first sailing vessels were placed in service by Burton in 1859-60 (Scott 1957:358). Lake Forest was a refueling stop for lake steamers, and a huge wharf, located near the present Coast Guard pier, was an over-water cache for cordwood. It took about four cords of wood per day to fuel a large steamer, much of it being harvested nearby and skidded to the wharf by teams of horses.

In the 1880s, Burton sold his 300-acre farm to Antone Russi, a dairyman whose name graces the upstream meadows of the Burton Creek drainage, two miles to the northwest. The Antone Meadows/Burton Creek area was one of the main Forest Service grazing allotments in the area (Stone, personal communication in Kraushaar 1992b:12). Russi died in the 1890s, and his widow married dairyman Frank X. Walker, who then took over the farm. Walker located his living quarters, corrals and milk house on the edge of the meadow where Tamarack Lodge was later built and managed the cattle business successfully for two decades (Scott 1957:358). In 1910, after having owned Russi's property for more than a decade, Walker sold a parcel, which included the Burton home, to George Briggs of Sacramento. Matt Green subdivided this acreage, calling it Tahoe Island Park, and later it was resubdivided into Lake Forest by Henry Droste of Tahoe Realty, the first real estate office on the western side of the lake (R.H. Watson, personal communication 3/4/1958, in Scott 1957:358).

The settlement of Lake Forest grew up west of Burton's former lakeshore establishment. It borders on the old dog-leg of SR 28 between the Tahoe City Fish Hatchery and Dollar Hill. It wasn't until the 1930s that Lake Forest supported any larger-scale commercial activity. Seasonal residences grew in number, supplied by the founding of the Snyder Lumber Company in 1939. Several local businesses participated in an advertising campaign in 1946, reflecting the commercial upswing,

which Lake Forest enjoyed in the early postwar years. A post office, which opened in 1947, signaled the sense of permanence for this primarily seasonal community. With the relocation in 1954 of SR 28 to shorten and straighten the Tahoe City approach to Dollar Grade, the horseshoe, now known as Lake Forest Road, was removed as a main thoroughfare.

Dollar Point Settlement

Over the decades, Dollar Point has carried a variety of names: Chinquapin (after the Washoe derivation), Griff's, Old Lousy, Observatory, and Wychwood. The appellation "Old Lousy" has at least two explanations that have bearing on its historic land use. Griffin, a land squatter and cordwood cutter in the area, was nicknamed "Old Lousy," as he allegedly never changed his clothes (Ernest Henry Pomin, Tahoe Park, 5/18/1955 in Scott 1957:496; Scott 1957:351). An alternative derivation comes from the notion that the waters off the promontory were considered "lousy" with trout (Robert H. Watson, Lake Forest, 9/2/1955 in Scott 1957:496). The named "Observatory Point" was coined in 1873 when James Lick, the San Francisco philanthropist, offered to appropriate $1,000,000 for the construction of a large observatory there. An added incentive in this venture was the boost given by D. L. Bliss and H. M. Yerington of the Carson and Tahoe Lumber and Fluming Company (C&TL&FCo.), who owned a half section of land at "Old Lousy" and generously agreed to donate 140 acres to James Lick if his plans materialized (Scott 1957:351). Upon the death of D. L. Bliss in 1906, the land was turned over to his heirs (Scott 1957:353). In 1915, Mrs. Lora Moore Knight acquired the property and built her first Tahoe home, calling it Wychwood. The "Old Tea House," built by Mrs. Knight in the early 1920s at her famous Vikingsholm Castle at Emerald Bay, was once located on Dollar Point. Moving to Emerald Bay in 1927, she sold the property to Robert Stanley Dollar, Sr. Dollar Point and Dollar Hill are named in his honor. The private water source for the Dollar Estate was located on the hillside, about a mile above their residence, at Dollar Reservoir (Van Etten 1987:122).

The Lumber Industry, Recreation, and Community Development

The C&TL&FCo. may have conducted the earliest and most active logging of the project area. Acquisition of timber tracks around Carnelian Bay and at Dollar Point began at least as early as 1875, with Placer County tax assessments being levied on timber tracks up until 1887. The C&TL&FCo. may have consolidated operations on their somewhat discontiguous land holdings by entering into mutually beneficial business relations with A.W. Pray, who was logging in Sections 10, 28, and 32 (T16N/R17E). The C&TL&FCo. purchased Pray's mill at Glenbrook in 1873. It is possible that these initial business dealings continued as both companies acquired new timber lands around Carnelian Bay and Dollar Point. An "Abstract Deed" between the C&TL&FCo. and the Carnelian Bay Company, dated 1910, documents the transfer of all of Sections 17 and 20 together with the western half of Section 21 (all in T16N/R17E) from the former to the latter. In turn, the Carnelian Bay Company later sold these lands to Crown Zellerbach Paper Company. No doubt, the previously logged pine stands were re-entered to harvest fir as pulpwood for the paper mill at Floriston, farther down the Truckee Canyon. In 1947, these same lands in section 17, 20 and 21 were sold to Fibreboard Corporation

The Sierra Nevada Wood & Lumber Company (SNW&LCo.), one of the leading competitors, was run by W. S. Hobart. The company cut primarily in the northern and northeastern section of the Tahoe Basin, inland from Crystal and Agate Bays, between 1879 and 1896. Hobart also had lumber holdings in the southeastern basin and in the northern basin as far west as Tahoe City. The project area falls within extensive historic Placer County land holdings of the SNW&LCo. The company also owned considerable land in the general project vicinity (particularly in T17N/R17E and T17N/R18E). Smaller, discontiguous blocks were held in T15N/R16E. The extent to which the SNW&LCo. logged their lands in Placer County is uncertain. Any logging would have been centered around Agate Bay, with little or no logging west of there. Tax records show that

aggressive land acquisitions were taking place by 1878. However, after 1884, the SNW&LCo. exchanged 5000 acres of their Placer County timber holdings to the Truckee Lumber Company (TLCo.) for 5000 acres of TLCo. timber lands north of Truckee.

For four prosperous decades—between the 1860s and 1890s—settlements followed the pattern dictated by lumbering: Towns mushroomed quickly in virtually every locality where mills began sawing. As the mills "devoured their birthrights," most of the associated towns withered and died and are now only place names on a map. A handful of lumbering centers—Truckee, Incline, Kings Beach, Tahoe City—built a future primarily on tourism; these communities survived and continued to prosper, initiating a trend towards increased urbanization and year-round residency (Wilson 1992:48). Very early on, there were those who sensed the possibilities of the Lake Tahoe region as a pleasure and health resort for tourists. Brewer (1863:444) noted in 1863 that "beautiful as Lake Tahoe is from the south, it is yet more so from the north. . .This end will eventually become the most desirable spot for persons in pursuit of pleasure."

With the legalization of gambling in 1931, gaming became a significant factor in the economic structure of the Tahoe Basin (Van Tassel 1985:15) although the north shore has never been as significant a gaming center as the south shore. Outside Nevada, gambling was found at the Tahoe Inn and Tahoe Tavern in Tahoe City, and the Buckhorn in Kings Beach (Van Tassel 1985:76).

After the 1960 Winter Olympics, an irreversible trend was established with the demand for year-round residency. Thereafter, the ski industry assumed a prominent place, along with gaming, in the economy of the Tahoe Basin.

4.0 PREVIOUS ARCHAEOLOGICAL RESEARCH

Susan Lindström coordinated with personnel at the North Central Information Center at California State University, Sacramento, and the U.S. Forest Service (USFS) Lake Tahoe Basin Management Unit (LTBMU, Davis personal communication 2004) to complete a thorough archaeological records search. A one-mile radius around the project area was searched for previous cultural resource inventories and known archaeological sites. The search identified 12 previous archaeological projects (Table 1) and 7 known archaeological sites (Table 2). Locations of previous projects and known sites in the vicinity are shown in Figure 4.

Table 1. Previous Cultural Resource Projects Within One Mile of the Lake Forest ECP.

Project No.	Author (Date)	Project/Report Name	Relation to Area B
USFS TB-95-4	Dexter (1995)	Urban Lots Management Project	Outside
348	Padon (1987)	A Cultural Resource Assessment for the Proposed Placer County Administration Center, County of Placer	Inside
1615	Miller (1996)	Fairview-Incline Erosion Control Project (ARR No. 05-19-149)	Inside
1616	Ferrier (1994a)	Archeological and Historical Resources Survey and Impact Assessment: A Supplemental Report for a Timber Harvesting Plan	Inside
1617	Ferrier (1994b)	Archeological and Historical Resources Survey and Impact Assessment: A Supplemental Report for a Timber Harvesting Plan	Inside
1919	Jensen & Associates (1996)	Archaeological Inventory Survey, Proposed Recreational Development Project, c.30-acres at Tahoe City, Placer County, California (AP# 093-010-	Inside

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HISTORICAL OVERVIEW

The proposed project is located in Placer County, which was formed in 1851 from portions of Sutter and Yuba counties (Kyle 1990:257). John C. Frémont viewed Lake Tahoe during an 1844 expedition to California. Thousands more would pass by during the mass immigration of the late 1840s and early 1850s; however, initial Euro-American settlement near the lake did not begin in earnest until the 1860s. Lake Tahoe's "Official Map of 1887" indicates that, although several sizable tracts of land were in private ownership, the Carson and Tahoe Lumber and Fluming Company was the largest holder in the project area.

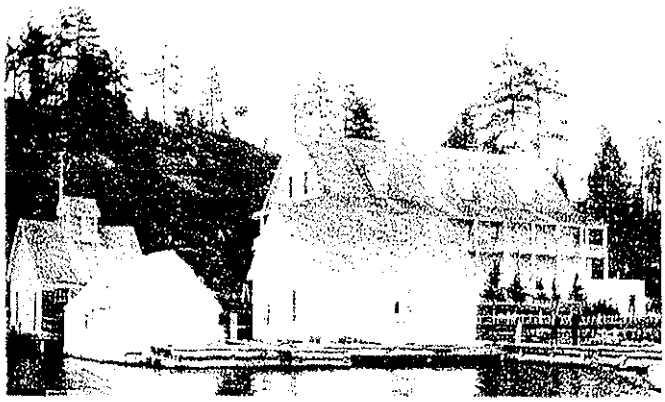
THE CARSON AND TAHOE LUMBER AND FLUMING COMPANY

Lumbering operations in the Lake Tahoe basin began in response to the demand for wood created by activities at the Comstock mines near Virginia City. In 1873, Duane L. Bliss, H.M. Yerington, D.O. Mills, and J.A. Rigby organized the Carson and Tahoe Lumber and Fluming Company (Carson and Tahoe). From its headquarters in Glenbrook, Nevada, the Carson and Tahoe proceeded to acquire smaller companies, eventually becoming one of the largest lumber enterprises in the vicinity. By 1875, the Carson and Tahoe controlled over 50,000 acres of timberland, operated several sawmills, two Lake Tahoe steam tugs to tow logs, two logging railroads, logging camps employing 500 men, and a planing mill and box factory in Carson City. Within the project area, the Carson and Tahoe owned the land in the vicinity of Watson Creek, including Carnelian Canyon (Official Map of Lake Tahoe, 1887; UNR Web site). By the late 1800s, forests in the Lake Tahoe vicinity had been severely depleted and the mining at the Comstock had slowed. The Carson and Tahoe abandoned their logging operations c. 1896 and officially closed in 1898. During the course of its operation, the Carson and Tahoe had logged 750,000,000 board feet of lumber and 500,000 cords of wood from Tahoe Basin forests. Following its closure, the company proceeded to sell much of their land to private parties (Nevada, State of; UNR Web site).

EARLY SETTLEMENT

BROCKWAY

In 1869, two stage and mill owners completed construction of a wagon road from Truckee to the natural hot springs at the location that would become known as



Brockway Hot Springs, 1878. Photo: California State Library (Reprinted in Scott 1957: 323)

Brockway (Scott 1957:319). One of the men, William Campbell, acquired title to 63 acres surrounding the spring and proceeded to construct a bathhouse and several cottages. In the following year, Campbell and his partner, Henry Burke, added a two-story hotel and more cottages to their establishment (Scott 1957:321). During the succeeding three decades, Campbell leased the property to a number of men who were unable to make the hotel and cabins operate at a profit. By 1899, the resort was deteriorating badly. The following year, however, Frank Brockway Anderson, an associate of Elias J. "Lucky" Baldwin, purchased the property and began an aggressive marketing and improvement campaign that had limited success (Scott 1957:327). In 1909, the Alversons filed bankruptcy and the resort was sold at auction to Melville Lawrence and George Lord Mortimer Comstock, the operators of Baldwin's Tallac resort at the south end of the lake (Ibid.). Several managers came and went at the hotel until, in 1914, Lawrence moved to Brockway permanently and took over the day-to-day operations of the resort. Comstock's son, Harry, joined Lawrence shortly thereafter, and together they improved the facilities through the construction of a casino, dining room, swimming pool, and golf course (Scott 1957:329). The Brockway Golf Course remains at the junction of SR 28 and SR 267, although in a somewhat modified form. Maps on file with the Placer County Assessor indicate that "Fairway 18" existed on the south side of SR 28 (Placer County 1926). Although the map is unrecorded, "Fairway 18" was subdivided into at least 12 parcels by 1945, the estimated date of the earliest residence.

TAHOE VISTA

Tahoe Vista Casino. Photo: Tevis Paine (Reprinted in Scott 1957:336)

Morris Brooks and Charles Pain, president and secretary-manager of the Tahoe Development Company, purchased 1,110 acres of land at this location from Frank Brockway Alverson in 1910 and proceeded to construct the Tahoe Vista Hotel (Scott 1957:336). The following year, the Tahoe Development Company subdivided a portion of its land into residential parcels, and two years later constructed a casino at the head of its 200-foot pier (Scott 1957:337). The family-oriented resort was a financial success; however, the sale of a residential parcel to a notorious "madam" from Sacramento had a negative effect on the sale of the residential parcels. The Tahoe Vista Hotel burned during the winter of 1922-23 (Ibid.). Some of the structures associated with the hotel, such as the hotel's restaurant, were later reused for residential and commercial purposes.

CARNELIAN BAY

Carnelian Bay was "named by the Whitney Survey because of the presence of a variety of chalcedony, known as carnelian or Cambay stone" (Gudde 1949:67). In 1871, a Dr. Bourne of

San Francisco and Sacramento opened a "hygienic establishment" at Carnelian Bay, offering "curing, bathing, and fine fishing" (Scott 1957:347). Later renamed the Carnelian Bay Hotel, the resort became a popular destination for lake steamers loaded with day-trippers and fishermen. In 1896, Joseph, Nicholas, and William Flick purchased much of the lakeshore land at Carnelian Bay, including the hotel and surrounding town (Scott 1957:349). The brothers sold their property in 1909-1910 to the Carnelian Bay Improvement Company, which began to subdivide its holding into residential and commercial parcels. The subdivision map filed the previous year by the Carnelian Bay Company also depicts parcels dedicated for a park and hotel (Placer County 1908). A subsequent map shows that the company later subdivided the "hotel reserve" for an inland harbor and park (Placer County 1915). The harbor exists at the southern terminus of Carnelian Woods Avenue.

TAHOE CITY

Tahoe City is situated at the mouth of the Truckee River, the only outlet for the waters of the lake. Tahoe City, originally known simply as "Tahoe," was first surveyed in 1863 and functioned primarily as a logging town (Kyle 1990:258). In the following year, M.L. King completed the first hostelry, Tahoe City Hotel, which was touted as the "largest hostelry on the western shore of the lake" with "fifty commodious suites and luxurious apartments, two dining rooms, a dance salon, and bowling alley" (Scott 1957:28, 472). The Central Pacific Railroad completed its line to Truckee in 1868, after which commenced construction of a road to connect the end of the line with the lake (Kyle 1990:258; State of California 1990:148). The same year, William Pomin completed construction of Tahoe House and Bar, a modest establishment offering accommodation and refreshment to tourists (Kyle 1990:258; Scott 1957:25, 472). Regular stage service to Tahoe City facilitated travel to the Lake Tahoe basin, which encouraged the construction of additional hotels and the improvement of those existing.

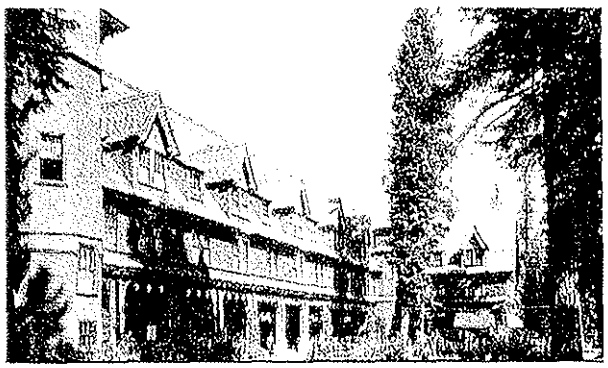
A. J. Bayley of Pilot Hill, California, purchased King's Tahoe City Hotel in 1871, changing the name to the Grand Central Hotel and making numerous, large-scale improvements (Scott 1957:29). In addition to offering "unsurpassed luxury" to its visitors, telegraph service reached the hotel from Truckee in 1873 (Scott 1957:31). Bayley vigorously marketed his resort, with a concentrated effort made to attract Bay Area "blue bloods" in the *Tahoe Tattler*,

Grand Central Hotel, 1874. Photo: California State Library (Reprinted Scott 1955:27).

a publication started in 1881 at the hotel (Scott 1957:35-36). The Grand Central was open from May through the 1st of October until fire destroyed the structure in the fall of 1895 (Scott 1957:37, 41).

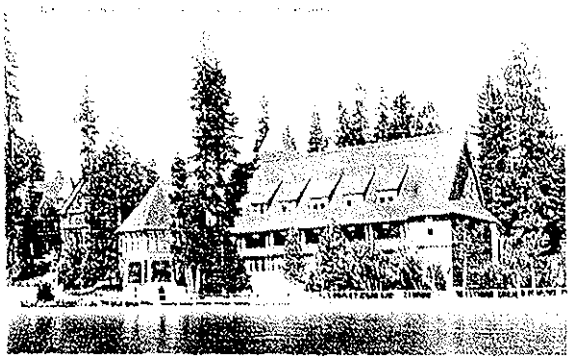
TAHOE TAVERN AND THE BLISS FAMILY

In 1863 Duane L. Bliss, president of the Carson and Tahoe Lumber and Flume Company, formed the Lake Tahoe Transportation Company (LTTC), an enterprise created to facilitate tourism at Lake Tahoe that included lake steamers, a rail connection between Truckee and Tahoe City, and a resort hotel (Wheeler 1992:48). Bliss reorganized the LTTC in 1898 as the Lake Tahoe Railway and Transportation Company (LTRTC), distributing all of the stock to his five children and brother-in-law, Walter D. Tobey (Wheeler 1992:53). Duane's eldest son, William Seth, in his position as vice-president of the LTRTC, surveyed and supervised the construction of a narrow-gauge railroad between Tahoe City and Truckee (Wheeler 1992:53-54). The railway, completed in 1900, was constructed using salvaged materials from the Lake Tahoe Railroad of Glenbrook and the Lake Valley Line of Bijou, and included a one-eighth-mile long trestle pier located slightly south of Tahoe City (Scott 1957:41). From this pier, visitors could step from the rail cars onto one of the company's several lake steamers.



Tahoe Tavern, 1914. Photo: C.O. Valentine (Reprinted Scott 1955:52)

Two years after complete of the railway, the Bliss family constructed the Tahoe Tavern using a design by Duane's third son, Walter Danforth Bliss (Scott 1957:51). In the following decades, the family added an annex to the hotel (1906), a Casino (1907), and a south wing at a cost of $200,000 (1925). The complex was considered the height of Sierra Nevada luxury, with a laundry, steam plant, resident physician, bowling alley, barber's shop, ballroom with stage, swimming pool, tennis courts, shops, and boating and motoring facilities (Scott 1957:51). In the 1920s, the family sold Tahoe Tavern to the Linnard Hotel interests in partnership with a group of San Francisco capitalists (Wheeler 1992:45). The resort survived until the mid-1960s, when Tahoe Tavern and its outbuildings were demolished and the site developed for condominiums.



Tahoe Tavern Casino, c. 1920. Postcard: Special Collections Department, University of Nevada, Reno

The Bliss ventures were truly family-run. William Seth Bliss, Duane's eldest son, worked at his father's right hand in most situations. The second son, Charles Tobey Bliss, a former employee of Hobart Mills north of Truckee, assumed management of the Tahoe Tavern in 1910 (Wheeler 1992:146). During his tenure at the Tavern, C.T. Bliss lived in a large, Shingle style home in Tahoe City that was designed by the third son, Walter Danforth Bliss. After the family sold the resort, C.T. retired to Piedmont, California (Scott 1957:45; Wheeler 1992:103). Walter Bliss made his mark in the Tahoe basin through the design of numerous residences and hotels for both family members and private clients. Walter graduated from MIT with a degree in architecture, after which he completed an internship with the prestigious firm of McKim, Mead, and White in New York City (Wheeler 1992:54-55). In 1898, Walter formed a San Francisco-based partnership with his college roommate, William B. Faville, who had also trained with McKim, Mead, and White. Bliss and Faville "eventually became highly respected architects, responsible for many well-known Bay Area buildings: the St. Francis Hotel, the Bank of California, the Hotel Oakland, the Children's Hospital, the Geary Theater, the Southern Pacific Building, the Balboa Building, and various buildings at the Panama-Pacific International Exposition" (Wheeler 1992:55). In 1901, Walter designed the Tahoe Tavern to suite its rugged surroundings (Ibid.). The house he designed for his brother, Charles, in Tahoe City further demonstrates his ability to design a structure compatible with its intended environment. Walter also designed the Glenbrook Inn on the eastern side of the lake (1907) and the Hellman-Ehrman Mansion now located in Sugar Pine Point State Park (1901-1903). Walter Bliss had a long-lived career, finally retiring from practice in 1951 (Architect and Engineer 1951:26).

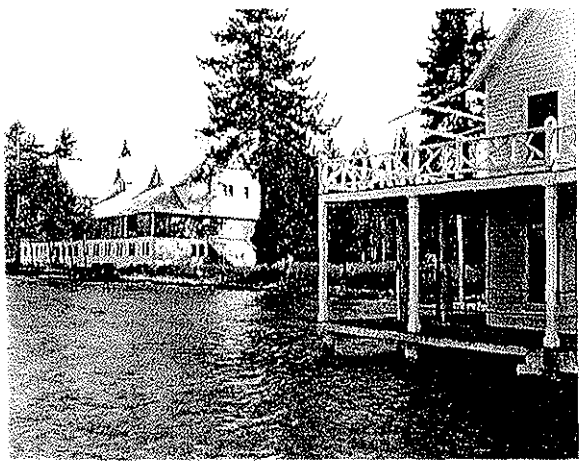
The Bliss family remained actively involved in business on the eastern side of Lake Tahoe, but by 1925 had sold most if its interests on the western side (Scott 1957:45). In 1929, the family donated 744-acres of land north of Emerald Bay to the State of California. This property, which Duane considered too beautiful to log, became D.L. Bliss State Park (Wheeler 1992:37).

OTHER BUILDINGS FROM TAHOE'S "GOLDEN AGE"

During the late 19th century, the Lake Tahoe basin became a retreat for San Francisco and Sacramento area residents. Early accommodations were rather rough, usually taking the form of fishing or hunting camps, some of which offered nothing more than canvas tents for shelter. As the logging industry petered out, enterprising hoteliers moved in to the region and began advertising the attractions of the lake. Hot springs resorts abounded at the turn of the century, as did "luxury" hotels that competed for trade by making never-ending improvements to their facilities. Those individuals who had the resources constructed private vacation homes, some of which were quite grand by the day's standards.

John McKinney was one of the first men to offer accommodations at the lake when he established Hunter's Retreat (a.k.a. "McKinney's") north of Sugar Pine Point in 1863. By 1869, the retreat had 20 cabins and tents. In the following years, McKinney added a boathouse (1874), five cottages (1880), and a dance pavilion (1889) (Scott 1957:82-87). In 1920, the former proprietor of Brockway Hot Springs, David Henry Chambers, purchased the compound and renamed it "Chambers' Lodge" (Scott 1957:89).

In c. 1875, Empraim "Yank" Clement constructed a small settlement at the south end of the lake, consisting of a two-story hotel, cabins and tents, store, livery, barns, and a saloon (Scott 1957:151). After "Lucky" Baldwin purchased the property in 1880, he constructed a new, two and one-half-story hotel (1898-99) to the east of "Yanks" and renamed the improved resort "Tallac House." With accommodations for up to 250 guests, a three and one-half-story Casino added 1901, a vegetable garden, 200 dairy cows, 45 riding horses, 3 barns, and a stable, Tallac House set the standard for plush accommodations at the lake (Scott 1957:152, 156, 159, 161). Although fire destroyed the old hotel in 1914, the resort continued to operate into the 1920s. Baldwin's daughter commissioned the demolition of the remaining buildings c. 1927 (Scott 1957:165).



Tallac House and Casino, 1916. Photo: Special Collections Department, University of Nevada, Reno

Private estates were not as numerous at the lake as hotels and hot springs resorts; however, many wealthy Sacramento and San Francisco residents constructed vacation "cabins" along its shores. Isaias William Hellman, "a prominent Pacific Coast capitalist," commissioned a design by Walter Danforth Bliss "who had just completed plans for the Tahoe Tavern," for a luxurious residence on his 1,016 acres on Sugar Pine Point (Scott 1957:107). Completed in 1903, the Hellman property comprised the three-story residence, "servants' quarters, tennis court, boathouses, and water tower," a private dairy, vegetable and flower gardens and was considered "the finest High Sierra summer home in California" (Scott 1957:107). In 1965, Sydney and Florence Hellman Ehrman sold the property to the State of California. The mansion is now open to the public in Sugar Pine Point State Park (California State Parks website). Another San

Hellman-Ehrman Mansion. Photo: Tahoe Country Web site, 2003.

Francisco-based businessman, Frederick Kohl, constructed a large, two-story vacation house in 1905 adjacent to "Idlewild," the former Edwin B. Crocker house. In her time, Mrs. Crocker was the social matriarch during summers at the lake (Scott 1957:63-65).

Arguably the best-known private residence at the lake, Vikingsholm is a Scandinavian style home constructed in 1929 by Mrs. Lora Josephine Moore Knight at Emerald Bay (Scott 1957:133). Mrs. Knight constructed the residence at the site of the old Emerald Bay Resort, a complex of a hotel, cottages, tents, and a landing begun in 1884 by Dr. & Mrs. Paul T. Kirby of Carson City (Scott 1957:127). Mrs. Knight purchased the property, which included Fannette Island, in 1928 for $250,000 (California State Parks website; Scott 1957:131). The State of California purchased the property in 1953, eight years after Mrs. Knight's death (Scott 1957:131, 135). Vikingsholm is now located within Emerald Bay State Park and is open for tours during the summer.

The Great Depression had its effects on Lake Tahoe resort hotels and private estates alike. Further, the outdoor recreation movement, the growing popularity of the automobile and the changing needs of the traveling public made the large hotels obsolete. In order to accommodate this new generation of tourists, Tahoe property owners began constructing auto camps, such as Camp Richardson on the south shore, using building materials and styles that would blend with the natural surroundings (Roland 2001:3). The advent of legalized gambling in Nevada in 1931 attracted yet another type of clientele to the Tahoe basin. During this period, the region experienced an increase in the construction of modest cottages constructed by middle class vacationers. As with the auto camps, the vacation cottages of the inter-war years typically reflect a rustic vernacular design tradition commonly used around the lake. The U.S. Forest Service helped to encourage the tradition by stipulating the use of local natural materials in buildings constructed within their summer home tracts (Roland 2001:4). Residences built during this time were typically one or one and one-half story, wood frame structures with wood siding, including "log cabin" siding, with fieldstone chimneys and, less commonly, fieldstone wainscots. The project area contains six residences designed in this tradition.

Deferred maintenance at the old resorts took its toll on some of the structures, and others were demolished as their owners sold their estates either to developers or public entities such as the United States Forest Service (Goodwin 1971:16). Most of the "golden age" hotels and residences that remained by the mid-1940s, however, stood little chance of surviving post-war development in the Lake Tahoe basin.

POST-WORLD WAR II DEVELOPMENT

Enhancements made to U.S. 50 during the 1920s and 1930s, which improved accessibility to the southern end of the lake, and the construction of large casinos across the Nevada state line combined to facilitate construction of the neon-signed strip of motels, restaurants, and wedding chapels now found in South Lake Tahoe. Access to the northern end of the lake, however, was more difficult and served to inhibit development. Nevertheless, tourists arrived in their automobiles, and motor courts sprang up to accommodate them. By 1956, more than 300 motels existed in the Lake Tahoe basin (Kostura 1998:3). One such property exists in the project area at the eastern end of Kings Beach (Map Reference #16). Although it has been drastically modified over the years, the small cabins placed in a U-shaped configuration are typical of the property type.

The VIII Olympic Winter Games held in Squaw Valley in 1960 affected the project area in two ways. First, the Department of Transportation engaged in a large-scale effort to upgrade the existing highway to the northern end of the lake. Secondly, the Olympic games served to draw more visitors and attention to Lake Tahoe, after which construction in the area increased (Kyle 1990:258). The new generation of visitor came with a different set of expectations and interests. Further, the old property owners were not able to compete with modern facilities and skyrocketing property values.

As Sessions Wheeler notes in his book, *Tahoe Heritage: The Bliss Family of Glenbrook, Nevada,*

> Gradually, old-time summer resorts on Lake Tahoe were closing – the Tahoe Tavern in 1964 and Brockway in 1967. The reasons varied. Real estate developers converged on the lake in the 1960s, with no practical building or planning restrictions, condominiums were built and sold by the hundreds. Motels, heretofore a rarity, sprang up along with many restaurants and dinner houses. Most, if not all, of the old Tahoe summer resorts operated on the American plan, the daily rate including three meals. With increasing opportunities for visitors to take some meals elsewhere, the American plan was gradually losing its appeal.
>
> Perhaps the single most important factor in the loss of the old resorts was the increase in property values caused by development. Most resorts were not "winterized" and depended on a short summer season to make ends meet—which became increasingly impossible (Wheeler 1992:133).

Evidence of the large-scale impact of development that continues to the present day is obvious to anyone traveling along State Route 28. Although it is a long way from the "neon jungle" of South Lake Tahoe, small vacation cottages are becoming the exception rather than the norm. The heirs of family properties are often taxed out of the market, or wish to maximize the use of their land through new construction. Currently, large condominium complexes jostle with multi-

million-dollar residences on their lakeshore parcels. Planned developments now constructed for year-round residents are virtually identical to those found in other suburban environments. Fortunately, public lands and a few surviving structures allow us an impression of earlier days at northern Lake Tahoe.

FIELD METHODS

Gail St. John, Caltrans District 3 architectural historian, conducted a windshield survey of the proposed project's Area of Potential Effects (APE) in April 2003 (Map 3). During the pedestrian survey conducted during the Summer and Fall of 2003, Ms. St. John took field notes and photographs of properties constructed prior to 1957 in order to complete a formal evaluation using State of California Historical Resource Inventory forms, DPR 523 series (Appendix A).

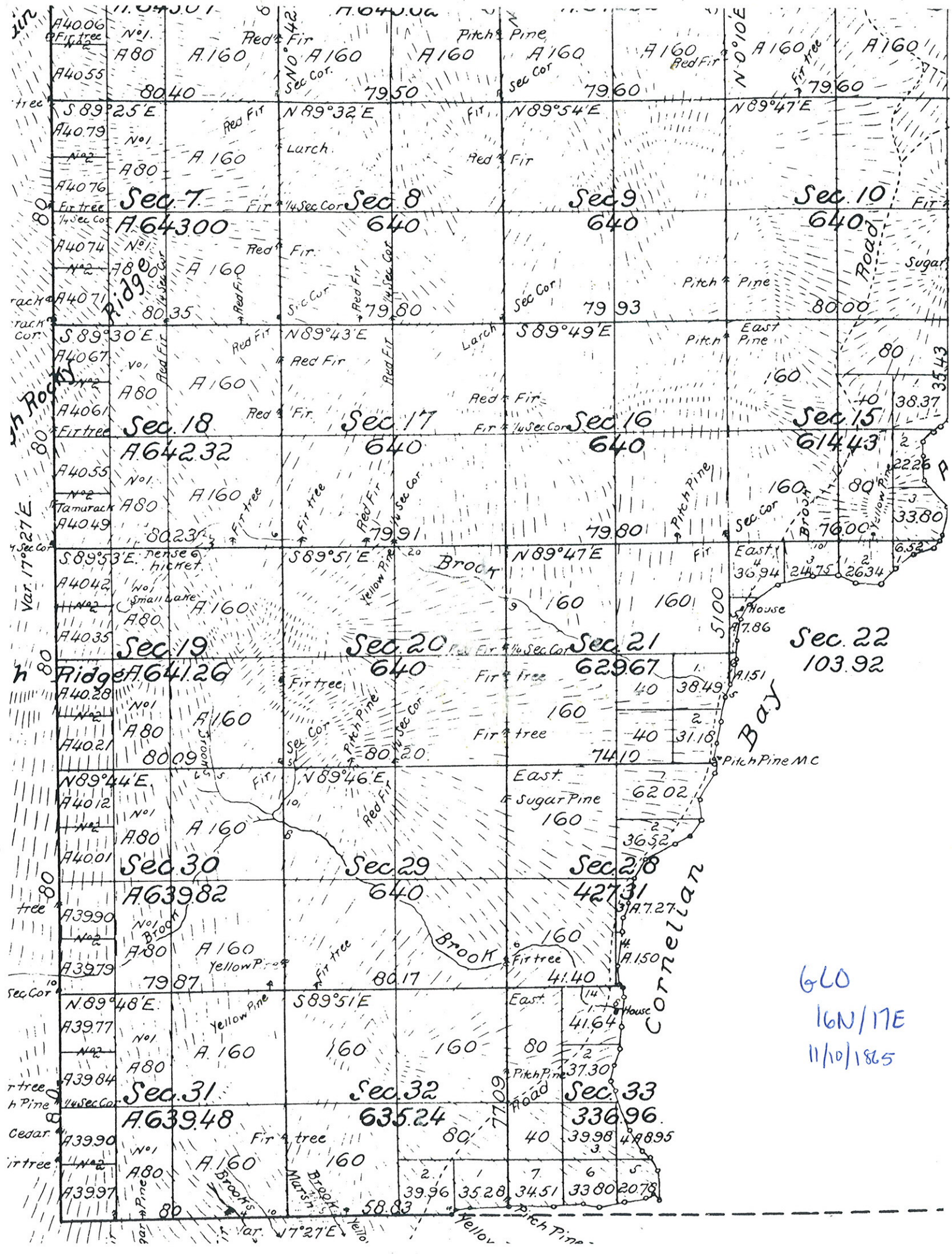
DESCRIPTION OF CULTURAL RESOURCES

THE C.T. BLISS/C.W. MERRILL HOUSE, 2000 N. LAKE BOULEVARD, MAP REFERENCE #1

The two-story residence at 2000 N. Lake Boulevard was constructed c. 1910 in the Shingle style. The building has an 'L'-shaped plan and a shingle-clad gambrel roof with numerous shed dormers containing eight-over-one, double hung, wood sash windows. Fenestration on the lower level consists of double hung, wood sash units with various configurations and sizes. The east-facing elevation contains three 18-light French doors with three-light transoms, and the south-facing façade of the projecting bay contains multi-light, wood sash windows and doors. A picture window with a 16-light transom and flanking glazed doors with eight-light transoms appears on the eastern façade of the projecting bay. The resource is located on a large, wooded parcel overlooking the lake.

3800 N. LAKE BOULEVARD, MAP REFERENCE #2

The 1956 residence at 3800 N. Lake Boulevard is a one-story, Ranch style building with a wood shake, hipped roof, lap siding, and one-over-one, double hung, wood sash windows with decorative shutters. The resource is located in a residential area of Carnelian Bay and is in good condition.


Sec. 7
Sec. 8
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Sec. 18
Sec. 17
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Sec. 15
Sec. 19
Sec. 20
Sec. 21
Sec. 22
103.92
Sec. 30
Sec. 29
Sec. 28
Sec. 31
Sec. 32
Sec. 33
Ridge
Road
Brook
Bay
Cornellan
Var. 17°27'E
Pitch Pine M.C.
House
GLO
16N/17E
11/10/1865

The NCIC records search identified a 27 previous cultural resource studies completed within ½ mile of the Project area (see Table 1). The 27 surveys included 10 studies completed within or intersecting the project area (Jackson, 1977; Munns, 1997; Peak & Associates, 1985, 1987, and 2007; Mead and Hunt, 2007; EDAW, 2007; URS, 2008; and USACOE, 2010).

TABLE 1

Previous Investigations done within ½ mile of the project area

CCIC Report #	Author (Date), Title	Within/Adjacent to Project Area (Y/N)
348	LSA (1987), A Cultural Resources Assessment Proposed Placer County Administration Center, Count of Placer.	Yes
1013	Greg Kostick (1993), Archaeological and Historical Resources Suvey and Impact Assessment for Lowell Hill.	No
1901	Susan Lindstrom (1997), Fulton Water Company Cedar Flat Well and Distribution System Heritage Resource Inventory, Placer County.	No
1920	Caltrans (1991), Negative Archaeological Survey Report: State Route 28 at Dollar Grade.	No
1979	William Banka (1998) Confidential Archaeological Addendum For Timber Operations on Non-Federal Lands in California.	No
4380	Susan Lindstrom (1989) A Cultural Resources Overview for the Tahoe City Community Plan, Placer County California.	Yes
4389	Caltrans (1991) Archaeological Inventory Surveys of Tahoe State Recreation Area.	Yes
4381	Susan Lindstrom (1986), A Cultural Resources Reconnaissance of the North Shore Transit Maintenance Facility Environmental Impact Report.	No
7216	S. Dexter (1994) Urban Fringe Management Heritage Resource Report.	No
7313	Stephen Windward (2005) An Archaeological Survey Report for the Highlands Village Conversion Timber Harvesting Plan, Placer County, California.	No
7418	Geotrans, Inc (2002) Proposed Cedar Flat Project.	No
7420	USFS (1997), Basalt Quarrying on Watson Creek: An Archaeological and Ethnographic Study in the Northern Lake Tahoe Basin.	No
7582	Herschel Davis (1994), Cultural Reconnaissance Report OHV Road and Spur Improvements and Obliteration: Placer and El Dorado Counties, California.	No
7725	John Furry (2006), Archaeological/Historical Property Survey of the Chinquapin Property.	No
7791	USFS (2006), North Short Trail ATM Environmental Assessment.	No
8072	Caltrans (2004), Historic Property Survey Report For the Proposed Roadway Rehabilitation and Drainage System Project on State Route 28 From Tahoe City to the Nevada State Line, Placer County, California.	Yes
9326	Caltrans (2008), Cultural Resources Inventory of Caltrans District 3Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo and Yuba Counties.	Yes
9506	Susan Lindstrom (9506) Highlands Forest Clearing Project Heritage Resources Inventory, Placer County, California	No
9606	USFS (2003), Proposed Mechanical Treatment of North Shore Units 13-3 and 13-4. LTBMU, Placer County, California.	Yes
9654	USFS (1996), North Shore Ecosystems Project Heritage Resources Inventory.	No
10005	Chambers Group, Inc (2007), Cultural Resources Inventory of Area B for the Lake Forest Erosion Control Project, Placer County, California.	No
10138	USFS (2007), An Archaeological Survey Report for the Dollar Point Fuel Reduction 2007, Placer County, California.	Yes
10139	USFS (2007), An Archaeological Survey Report for the Dollar Point Fuel Reduction 2009 Forest Fire Prevention Exemption, Placer County, California.	No

10141	John Furry (2009) Archaeological/historical Survey for the Beverly Road Fire Reduction Project located near Tahoe City, California.	No
10148	John Furry (2009) Archaeological/historical Survey for the Collins Project Area Near Tahoe City, Placer County, California	No

The NCIC records search revealed that 13 historic and prehistoric resources have been recorded within or adjacent to the project area. Of the 13 identified resources two were located within the project alignment and two were located adjacent to the proposed pipeline alignment. Table 2 lists previously recorded cultural resources within ½ mile buffer of the APE.

TABLE 2

RECORDED HISTORIC STRUCTURES WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT AREA

Primary Number (Trinomial)	Description	Within or Adjacent Project Area (y/n)
P-31-1132 (CA-PLA-943)	Basalt Cobble Quarry, cobble core reduction and biface reduction assemblage	No
P-31-1299 (CA-PLA-1005H)	Firestone Can Dump	Yes
P-31-1300	Isolated Pipe Fragments	Yes
P-31-1301 (CA-PLA-1006H)	Dollar Dam and ice house	Yes
P-31-1302 (CA-PLA-1007H)	Lithic Scatter and Trash Dump	No
P-31-2008 (CA-PLA-1518H)	Creek Road Grade	No
P-31-2768 (CA-PLA-1934)	Basalt Biface Reduction Site	No
P-31-2771 (CA-PLA-1937)	Basalt Cobble Quarry	No
P-31-2772 (CA-PLA-1938)	Basalt Cobble Core Reduction	No
P-31-2773 (CA-PLA-1939)	Basalt Cobble Quarry	No
P-31-2774 (CA-PLA-1940)	Basalt Cobble Quarry	No
P-31-2775 (CA-PLA-1941)	Basalt Cobble Quarry	No
P-31-2776 (CA-PLA-1942)	Lithic scatter	No
P-31-2777 (CA-PLA-1943)	Basalt Cobble Quarry	No
P-31-3351 (CA-PLA-2237)	Basalt Flake projectile point	No
P-31-3394	FS Road 16N74	No
P-31-3406	Basalt Flake Isolate	No
P-31-3407	Basalt Flake Isolate	No
P-31-5355	Truro Trail	No
P-31-5356	Lanza Dump	No
P-31-5357	Dollar Water Line	No
Source: NCIC, 2011		

ESA Community Development

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www.esassoc.com

October 17, 2011

North Tahoe Historical Society
PO Box 6141
Tahoe City, CA 96145

Subject: North Tahoe Bike Trail Project

To Whom It May Concern:

ESA is conducting environmental studies for the North Lake Tahoe Bike Trail Project, Tahoe City, Placer County. The project is located on the Kings Beach USGS 7.5' Quad ; T/R: New Helvetia Land Grant (See attached map). The project would include the construction of an approximately 3 mile bike trail between Dollar Point and North Tahoe Regional Park.

In an effort to address any potential impact to historic or architectural resources, we are seeking comments from informed organizations and individuals. We would appreciate your comments identifying any concerns or issues pertinent to this project.

Sincerely,

Katherine Anderson
Cultural Resources Associate
[attachment]

ESA Community Development

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916.564.4500 phone
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October 17, 2011

Placer County Historical Society
P.O. Box 5643
Auburn, California 95604

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Katherine Anderson
Cultural Resources Associate
[attachment]

Cardno ENTRIX

Shaping the Future

FINAL

Dollar Creek Shared-Use Trail Project

Land Capability and Land Coverage Report

Placer County, California

Date: January 2012

Project No 33369001

Prepared By:

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And

Placer County Public Works Department

Final

Dollar Creek Shared-Use Trail Project
Land Capability and Land Coverage Report

Placer County, California

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January 2012
Cardno ENTRIX Project No. 33369001

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Appendices

Appendix A Soil Profile Descriptions

Appendix B Land Capability District and Land Coverage Tables

Appendix C Dollar Creek Shared Use Trail Project – Historic Aerial Image Analysis (1969)

Acronyms

CTC	California Tahoe Conservancy
CWA	Clean Water Act
EIP	Environmental Improvement Project
EPA	Environmental Protection Agency
LRWQCB	Lahontan Regional Water Quality Control Board
LTBMU	Lake Tahoe Basin Management Unit
NRCS	Natural Resource Conservation Service
SEZ	Stream Environment Zone
TRPA	Tahoe Regional Planning Agency
USDA	United States Department of Agriculture
USFS	United States Forest Service
USGS	United States Geologic Survey

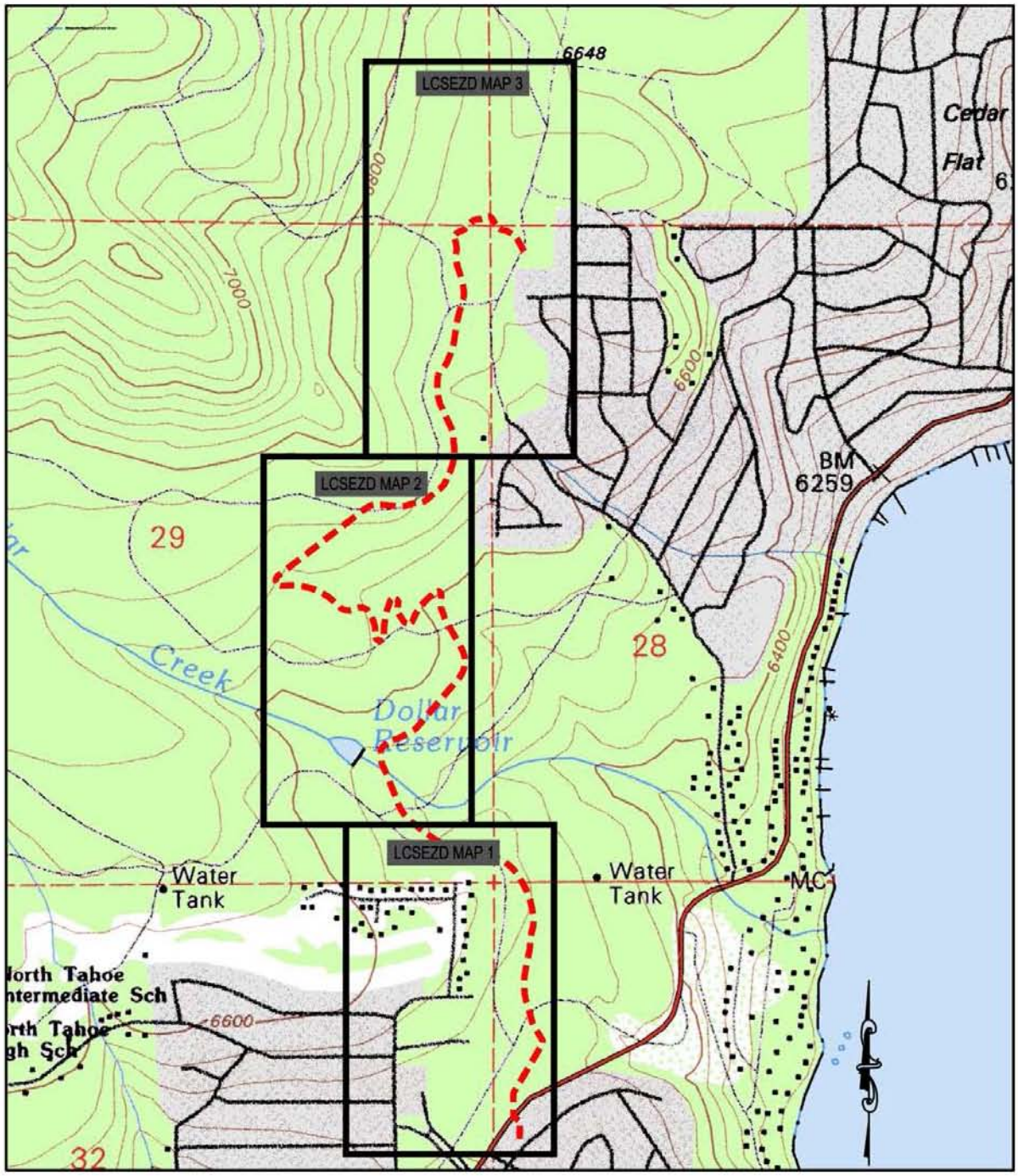
Introduction

This report provides regulatory information, methods, and results for a routine level verification and delineation of Land Capability Districts, Stream Environment Zones and Land Coverage for the Dollar Creek Shared-Use Trail Project (Project). The purpose of the verification and delineation is to assess the limits of regional regulatory requirements for land coverage and resource protection within the Project area. This Land Capability District, Stream Environment Zone and Land Coverage Verification and Delineation Report describe the resources subject to regulation by the Tahoe Regional Planning Agency and the Lahontan Regional Water Quality Control Board (LRWQCB).

Project Area Location

The proposed Project is located in eastern Placer County. The project area extends from the intersection of State Route 28 (SR 28) and Dollar Drive, which represents the southern boundary, to Fulton Crescent Drive, which represents the northeastern boundary. The Project is bounded to the west by the western portion of California Tahoe Conservancy parcel 092-010-035 and to the east by SR 28 and numerous private parcels. The Project Area is approximately 258.66 acres (11,267,603 sq. ft.) in size. Figure 1 depicts a overview of the proposed trail alignment on a U.S. Geologic Survey 7.5 minute topographic map.

Figure 1: Dollar Creek Shared-Use Trail (Proposed Trail Alignment)



Legend
Proposed Trail Alignment
LCSEZD Land Capability and Stream Environment Zone Delineation Map

Figure 1
Overview Map

0 1000 2000
HORIZONTAL SCALE: 1" = 1000'

Project Description

The Project establishes a separated shared-use trail, extending the backbone of the existing north shore bicycle trail network, linking residential uses to jobs, schools, shopping, and recreation and community areas. The approximately 2.5 mile long trail will extend the existing Tahoe City to Dollar Point trail, which ends near the intersection of Dollar Drive and SR 28, to the end of Fulton Crescent Road, through public lands commonly known as the Dollar and Firestone properties. The Project will enhance recreational and transportation opportunities by extending the existing paved trail network in the Tahoe City area, including TCPUD's ten mile Class 1 trail from Tahoe City to Sugar Pine Point State Park and the trail along the Truckee River. The project may also include a trailhead parking facility near Dollar Drive and SR 28 for trail users.

Purpose for the Report

One of the initial project tasks is the verification and delineation of Land Capability Districts, Stream Environment Zones and Existing Land Coverage within the designated boundaries of the project area. The field work was performed over ten (10) parcels, thereby including a much larger corridor (i.e. width) than the proposed linear positions of the two (2) shared-use trail alignment alternatives. This approach was chosen to allow for adjustments to the proposed alignment as it progresses through the design and environmental review process.

Cardno ENTRIX reviewed the existing TRPA Land Capability District maps and Sinclair Stream Environment Zone maps for the project area. The Bailey Land Capability District verification and delineation process was performed to refine these Order 3 maps (i.e. Scale 1:24,000 to 1:250,000) for application at the appropriate project scale (e.g. Scale 1:20 to 1:100).

Cardno ENTRIX prepared this Report to satisfy the Land Capability and Land Coverage requirements for the TRPA permitting process. The Land Coverage determinations and Land Capability District boundaries represented herein will be advanced to the TRPA to be designated as the "officially verified" Land Capability District boundaries and Land Coverage determinations for the project area. This information will then be incorporated into the Project Base mapping for use in the environmental documentation and eventual permitting process.

Environmental Setting

The following paragraphs briefly describe the topography, vegetation, hydrology, soils, geomorphology and geology associated with the Project area and the adjacent vicinity.

Topography

The project area is located on the Kings Beach, California 7.5 minute U.S. Geological Survey (USGS) quadrangle map. The topography of the project site slopes from the northwest to the east and southeast. The project area is located between the elevations of 6,500 and 7,000 feet above mean sea level (msl). Slopes range from 2 to 30 percent.

Upland Forest Vegetation Communities

The project area is mostly comprised of a mixed confer forest characterized by an overstory composed mainly of White fir (*Abies concolor*), Jefferey Pine (*Pinus jeffreyi*), Sugar Pine (*Pinus lambertiana*) and Incense Cedar (*Calocedrus decurrens*). The understory includes western serviceberry (*Amelancheir utahensis*), greenleaf manzanita (*Artcostaphylos patula*), whitethorn ceonothus (*Ceonothus cordulatos*),

prostrate ceonothus (*Ceonothus prostratus*), huckleberry oak (*Quercus vacciniifolia*) and creeping snowberry (*Symphoricarpos mollis*).

Stream Environment Zone Vegetation Communities

The Dollar Creek montane riparian plant community is comprised of a interspersed complex of three (3) primary regulatory floristic communities. The most prominent vegetation community is dominated by an overstory of mostly mountain alder (*Alnus incana* ssp. *tenuifolia*) with few black cottonwoods (*Populus trichocarpa*) interspersed. Western thimbleberry (*Rubus parviflorus)* and a small amount of Pacific dogwood (Cornus nuttallii) comprise the shrub understory. Willow (Salix spp) mixed with minor inclusions of montane emergent wetland that include beaked sedge (*Carex utriculata*), inflated sedge (*Carex vesicaria*), Nebraska sedge (*Carex nebrascensis*) and other sedge species (*Carex* species), rushes (*Juncus* species), and tufted hairgrass (*Deschampsia cespitosa*) are also present (Sawyer, Keeler-Wolf 1995).

TRPA Chapter 37.3.A establishes the definition for primary riparian floristic communities based on the document: “Vegetation of the Lake Tahoe Region, A Guide for Planning” (1971). The Stream Environment Zones within the project area would be most appropriately described as belonging to a complex of three (3) primary regulatory floristic communities: the Riparian Shrub Plant Community Type 7b (Alder Thicket); the Riparian Woodland Plant Community Type 9a (Low Elevation Broadleaf) and small intermittent inclusions of the Herbaceous Plant Community Type 2d (Wet Mesic Meadow). A Stream Environment Zone shall be determined to be present if any one of the Stream Environment Zone primary indicators is present. The Stream Environment Zone primary plant communities were identified in accordance with the definitions and procedures contained in the 1971 report entitled "Vegetation of the Lake Tahoe Region, A Guide for Planning."

The Stream Environment Zone Primary Indicators in the Project Area are:

1. Evidence of surface water flow, including perennial, ephemeral and intermittent streams;
2. Primary riparian vegetation;
3. Near surface groundwater;
4. Lakes or ponds

Stream Environment Zone Setback Recommendations

Dollar Creek is a confined perennial system and the setback recommended is based on the corresponding slope condition being assessed as good. When the slope condition is determined to be good, the prescribed setback is thirty five (35) feet from the edge of the Stream Environment Zone.

An unnamed creek was identified in the northern part of the project area (see Figure4). This Stream Environment Zone is an intermittent system and the following setback is recommended based on the corresponding slope condition being assessed as good. When the slope condition is determined to be good, the prescribed setback is fifteen (15) feet from the edge of the Stream Environment Zone.

Surface Hydrology

The Dollar Creek watershed is the perennial stream that drains a majority of the project area. The creek originates approximately one mile east of Martis Peak and flows southeast through the southern portion of the project area. Dollar Creek ultimately crosses under State Route 28 and discharges into Lake Tahoe. Other than Dollar Creek, no other major drainages occur in the Project area.

Soils

Soils in the delineation study area were originally mapped by the U.S. Soil Conservation Service during their survey of soils in the Lake Tahoe Basin (Rogers 1974). The Natural Resource Conservation Service (Loftus 2007) has recently updated the mapping, including the soils in the Project area and surrounding vicinity. A total of four soil map units occur within the boundaries of the project area (Figures 2, 3 and 4). The narrative description of the physical characteristics of the soils that were sampled within the project area is summarized in Appendix A. However, the soils associated with the riparian woodlands and emergent wetlands present along Dollar creek and the unnamed intermittent drainage in the northern part of the project area were determined to be hydric.

Soils are a critical element in land use planning in the Tahoe Basin because the TRPA Land Capability Districts are based on soil map units. The NRCS 2007 Soil Survey update shows four (4) soil map units comprising the project area. The Tahoma and Jorge are the soil series that dominate these four maps units. These two soil series are, in general, very cobbly sandy loams that occur on gently sloping to steep slopes (2 to 30 percent). These soils are formed from residuum derived from the weathering of volcanic rock; more specifically latite and andesitic agglomerate (NRCS 2007).

Soils of the Tahoma series are generally 40 to 60 inches deep. The frost-free season in areas having this soil type is typically 30 to 50 days. Permeability is moderate, the available rooting depth is 60 inches and the available water holding capacity of the soil is 5 to 6.5 inches (NRCS 2007).

Soils of the Jorge series are underlain by volcanic rocks such as andesite, basalt and latite. Slopes range from 2 to 50 percent. Like the Tahoma soils, the frost-free season is 30 to 50 days. Permeability is moderate, the available rooting depth is 60 inches and the available water holding capacity of the soil is 3 to 5 inches (NRCS 2007).

Man Modified Ruderal Areas

Ruderal areas (i.e. disturbed and compacted soils) are located throughout the Project area. Ruderal areas primarily occur on and immediately adjacent to unpaved right-of ways and repeatedly compacted trails.

Geomorphology

The upland portion of the Dollar creek watershed soils were developed on mostly andesitic bedrock which predominantly underlies the northwestern flank of the Carson Range. The geomorphology is typical of andesitic terrain. Bedrock outcrops (i.e. disjointed core stone complexes) are exposed in some areas; other areas are mantled by moderately to extremely weathered bedrock and colluviums (i.e., sediments produced by slope processes including sheetwash, creep, and land sliding). Although the slopes are moderately steep, slope failures appear to be restricted to small debris slides and soil slumps. Review of aerial photos and field reconnaissance indicate that these gentle to moderately steep slopes are relatively stable (e.g., do not have significant field evidence of soil tension cracks and slope failures).

The lower portion of the watershed is dominated by two distinct mapped geologic units. The relatively flat topography is mapped as Tertiary volcanics with inclusions of Quaternary lake terrace deposits. The lacustrine sediments were deposited at a higher lake level (relative to the present conditions) and are generally found at elevations that are 30 to 50 feet above the current lake surface. These processes resulted in a broad geomorphic surface which generally extended from the edge of the current lake to the base or foot of the upland slopes.

Geology

The Project area comprises an area on the northern margin of Lake Tahoe, a large natural lake located at the border between California and Nevada. The area is also at the margin of two major geologic regions, the Sierra Nevada, and Basin and Range Geomorphic Regions. The two regions have distinct geologic, geomorphic, hydrologic, and tectonic characteristics. The regional geologic setting of the Project area (Saucedo 2005) is characteristic of the Sierra Nevada region with steep topography developed on primarily granitic bedrock of the Sierra Batholith. The Batholith represents a series of large igneous intrusions emplaced during the Paleozoic Era (575 to 270 million years ago). The Sierra Nevada mountain region has been uplifted as a tectonic block. Portions of the Basin are mantled by glacial till (generally undifferentiated mixtures of gravel and boulders in a matrix of finer-grained sediments) deposited by a succession of glaciations during the Quaternary period (last 2 million years). The larger stream valleys are partially filled with glacial outwash sediments (silt, sand, and some gravel) and more recent lacustrine (i.e., lake environment) and alluvial (i.e., stream) deposits. Lake levels have fluctuated (lake level eustasis) within Lake Tahoe Basin in response to climatic changes and outlet restrictions from the lake into the Truckee River. Geologic evidence indicates that historically lake levels may have been significantly higher than present levels (Howle *et al.* 2005). Evidence of higher lake levels is reflected in the mapping of Lake Terrace deposits above the current water line on the southern margin of the lake (Saucedo 2005). Recent investigations near the southern margin suggest that a relatively high stand of the lake resulted in deposition of lake sediments within the Upper Truckee Marsh during the period 14,000 to 25,000 years ago (Delusina *et al.* 2006).

The tectonic conditions and geologic structure of the Lake Tahoe basin are characteristic of the Basin and Range region. The Lake Tahoe basin is a fault-bounded valley formed by the extensional tectonic regime which defines the Basin and Range (Schweickert *et al.* 2004). The valley is the western-most basin of this portion of the Basin and Range and is bounded by the Sierra Nevada to the west and the Carson Range to the east. More specifically, the basin is a half graben, formed between the West Tahoe Fault, located on the western margin of the lake, and the North Tahoe-Incline Village Faults at the north end of the lake.

Regulatory Background

TAHOE REGIONAL PLANNING AGENCY LAND COVERAGE REGULATIONS

The Bailey Land Capability Scoring System

Soil conservation is essential for the maintenance of healthy plant communities, the prevention of erosion, the protection of water quality, the maintenance of healthy stream systems and the protection of lake clarity. Two of the major elements that form the soil conservation strategy for Lake Tahoe are: 1) the restriction of impervious land coverage; and 2) the conserving of Stream Environment Zones. Impervious land coverage, such as asphalt, concrete and roofs and compacted soils prevent stormwater runoff from infiltrating into the soil. When surface runoff bypasses this natural process, it fails to be filtered by the soil and contribute to groundwater recharge. Excess runoff contributes to the accelerated incision of stream channels. It also erodes stream banks and unnecessarily damages vegetation. Stream bank channel erosion contributes to the degradation of water clarity and transparency. Stream Environment Zones are riparian forests, meadows, marshes and wetlands that serve to slow runoff by dispersing it over a large area, allowing water to slowly infiltrate, sediment to settle out and the vegetation and soil to adsorb nutrients.

Land Capability Districts

Since the late 1970s, regulatory agencies in the Lake Tahoe Basin, primarily TRPA, have used the land capability classification system known as the “Bailey System” to help evaluate permit applications for new or redevelopment project (A Land Capability Classification of the Lake Tahoe Basin, California-Nevada: A Guide to Planning, Bailey 1974). The Bailey System was developed as a set of programmatic erosion control techniques designed to minimize the deleterious consequences to water quality that can result from the uncontrolled installation of impervious coverage.

Land capability is defined as “the level of use an area can tolerate without sustaining permanent environmental damage through erosion and other causes” (Bailey 1974). The U.S.D.A. Forest Service and TRPA developed the Bailey Land Capability System based on the USDA Soil Conservation Service Soil Survey maps for the Tahoe Region (Rogers 1974). Each soil map unit was assigned a Land Capability District Class ranging from 1 to 7, with Land Capability District Class 1 being interpreted as the most environmentally fragile and sensitive to development. The Land Capability District Class assigns a percentage of land coverage that could be potentially allowed on a parcel of land. Furthermore, wherever land was found to be influenced by a surface stream or high groundwater, it was assigned to Land Capability District 1b, also referred to as "Stream Environment Zone" or SEZ. The National Resource Conservation Service is the federal agency responsible for mapping the soil types in the Lake Tahoe basin. The NRCS continues to assist the TRPA with corroborating and the updating the original Bailey map classifications.

Land Capability Districts were derived by analyzing the land capability according to the frequency and magnitude of hazards that may be encountered if the land were developed. They were also developed by considering the type and intensity of land use suitable for each soil map unit. The integration of the Land Capability District map unit with basin wide land use suitability planning resulted in establishing limits on impervious coverage for each Land Capability District map unit.

Chapter 2 of the TRPA Code of Ordinances defines land coverage as a man-made structure, improvement or covering that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement or covering. Examples include structure related roofs, decks, patios and driving surfaces paved with asphalt, concrete or stone. Such structures are defined as “hard coverage.” Compacted soils that mimic the non infiltrating qualities typical of impervious surfaces are defined as “soft coverage.” Soft coverage is compacted or highly disturbed soils that exist due to repeated vehicular traffic and / or heavy pedestrian use. The TRPA Code Chapter 2 definition continues on to state: “A structure or impervious surface shall not be considered land coverage if it permits 75 percent of precipitation to directly reach the soil surface; and it permits growth of native vegetation” (TRPA 1991).

The Land Capability verification and delineation process, as outlined in TRPA Code Chapters 20 and 37 have been used to determine how much potential coverage can be allowed on the ten parcels that comprise the North Tahoe Bike Trail project area.

Chapter 20 in the TRPA Code of Ordinances establishes the Land Coverage standards. This system assigns each Land Capability District a percent allowable coverage based on the Soil Hydrologic Soil Group (i.e. Soil depth and permeability) and slope steepness. Allowable land coverage can then be calculated based on the size of the parcel. Chapter 20 provides a table that presents the base percent coverage allowed for each Land Capability District.

Lands Located in Land Capability District	Allowable Base Coverage
1a, 1b, 1c	1%
2	1%
3	5%
4	20%
5	25%
6, 7	30%

If the project site were completely undeveloped, the verified Land Capability District would establish the allowable coverage for the Project area by soil map unit and parcel size. However, the project site is not totally undeveloped and the Land Coverage for the project area was never mapped and verified by TRPA. The project area currently has 81,696 square feet (sf) of existing "soft "coverage in the form of densely compacted trails and unimproved or abandoned right of ways. These areas were determined through air photo analysis to be presently existing (i.e. 2012) and prior to1972. The existing land coverage information provides additional data that affects the calculation of total allowable coverage that can be used or transferred in the project area. If no existing land coverage was present within the project area then just summing up the allowable base coverage's assigned by Land Capability District would determine the total. Therefore, the total allowable coverage for the project area will be determined by both the presence of verified existing land coverage and the base allowable coverage as determined by the verification and delineation of the Land Capability District.

The Bailey system prohibits new development on Land Capability Districts 1 through 3. It also restricts the amount of coverage (e.g. bike trail pavement) that can be placed on parcels designated as Land Capability Districts 4 through 7. The TRPA has built into its Code of Ordinances a program for land coverage transfer for parcels within Bailey Land Capability District Classes1 through 3. This coverage transfer program encourages development to be moved away from the most sensitive areas and provides project proponents a practical mechanism to implement projects that are consistent with the appropriate development of their land.

LAND COVERAGE

TRPA Code of Ordinances Chapter 2 defines Land Coverage as:

> *A man-made structure, improvement or covering, either created before February 10, 1972 or created after February 10, 1972 pursuant to either TRPA Ordinance No. 4, as amended, or other TRPA approval, that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement or covering. Such structures, improvements and coverings include but are not limited to roofs, decks, surfaces that are paved with asphalt, concrete or stone, roads, streets, sidewalks, driveways, parking lots, tennis courts, patios; and 2) lands so used before February 10, 1972, for such uses as for the parking of cars and heavy and repeated pedestrian traffic that the soil is compacted so as to prevent substantial infiltration. A structure, improvement or covering shall not be considered as land coverage if it permits at least 75 percent of normal precipitation directly to reach the ground and permits growth of vegetation on the approved species list. Common terms related to land coverage are:*
>
> 1. *Hard Coverage – man-made structures as defined above.*
> 2. *Soft Coverage – compacted areas without structures as defined above.*

There are two categories of land coverage: existing coverage and potential coverage. Existing land coverage refers to the impacted surface of a parcel that can be restored to its near-natural state and then transferred to another parcel. Existing soft land coverage can be transferred in most cases, except for transfers relating to commercial or tourist accommodation use. Potential land coverage refers to the unused allowable base land coverage on a parcel that can be transferred to another parcel. Any land that is undeveloped or developed to a lesser extent than allowed by the Bailey Land Capability District coefficient has potential land coverage that can be used, transferred or sold.

Land Capability Results and Conclusions

Potential Allowable Land Coverage

The proposed project site is located primarily in Land Capability District 6, which assigns a base allowable land coverage of 30 percent (TRPA Code of Ordinances 20.3.A).

Land Capability District 6 dominates the majority of the project area. There are also portions of the project area mapped as Land Capability District 4, which assigns base allowable land coverage of 20 percent and Stream Environment Zone which is designated as Land Capability District 1b, which assigns a base allowable land coverage of 1 percent (TRPA Code of Ordinances 20.3.A). There is a total of 3,229,159 square feet (74.13 acres) of potential land coverage calculated to the parcels that comprise the Project Area.

TRPA Code of Ordinances Section 20.5.C provides that land coverage on a developed site may be relocated to other parts of the project area. The areas where the existing land coverage is relocated from must be restored and rehabilitated in accordance with TRPA Code Section 20.5.C (2) and the provisions provided in the Revegetation Chapter (TRPA Code Chapter 77).

Existing Land Coverage

Tables 1 through 10 (Appendix B) have been assembled to show the type and amount of soft land coverage that were mapped as currently existing in the project area. As shown in the Tables, the project area contains a large amount of existing soft land coverage that is represented in this report as being present prior to 1972. The Project may need to restore some disturbed and compacted areas in order to bank the restored soft land coverage for relocation within the project area boundaries. The project area currently has 81,696 square feet (1.87 acres) of soft land coverage that is being represented as present prior to 1972.

Field Investigation Methods

Cardno ENTRIX assigned Mr. Timothy Hagan, a Senior Soil and Wetland Scientist, to perform the field work and write the report. The field work required the knowledge and experience to verify and demarcate the soil unit polygons and Stream Environment Zones located within the project area. The Land Coverage deemed eligible for field mapping (i.e. trails and unimproved right-of-ways) was pre-identified by air photo analysis as being present in the project area prior to 1972. The compacted trails and unimproved road surfaces identified as being present prior to 1972 were then traced, plotted and mapped onto a project area base map. The existing land coverage verification process relied on the use of a hand held static penetrometer in order to quantify the level of soil compaction present. This field apparatus measures the soil's strength or resistance to penetration. Soil strength beyond a specific threshold (i.e. approximately 3,500 kPa or 510 psi) generally prevents plant establishment and significantly diminishes the soils ability to infiltrate and transmit water (i.e. hydraulic conductivity). The dimensions of the compacted trails were measured at approximately 100 foot intervals when mapped in the field. The widths were then averaged

by the length of trail to which the average applied. The soft land coverage areas that were measured were then summarized and presented in the Land Coverage Tables located in Appendix B. Cardno ENTRIX staff performed the Land Capability District, Stream Environment Zone and Existing Land Coverage verification and delineation protocol on October 11th, 14th, 18th, 19th, 24th, 25th and 26th 2011.

Project Research

Prior to the field visit, a 300' scale (1" = 300') aerial photograph of the site was obtained and compared with the USGS 7.5-minute topographic quadrangle and a 100' scale project area topographic map to identify the drainage features within and adjacent to the project area. These areas can be recognized by the visual indications from vegetation types, topography and geomorphic drainage patterns. The 2007 NRCS soil survey map was also reviewed to identify the soil map units and soil families that comprise the Project area.

The following information was reviewed for this delineation:

- Kings Beach and Tahoe City USGS 7.5 minute topographic map;
- Pre 1989 and pre 1972 aerial photographs of the project area;
- The updated Soil Survey of the Tahoe Basin (NRCS 2006);
- TRPA Bailey Land Capability District Overlay Maps;
- TRPA Sinclair Stream Environment Zone Overlay Maps.

The Land Capability District, Stream Environment Zone and Existing Land Coverage verification and delineation was conducted in accordance with the methods described in Chapter 20 and Chapter 37 of the TRPA Code of Ordinances. Vegetation, soil and hydrology information was collected, logged and recorded in a project specific field book. The acreage of each map unit and the soft coverage features were plotted and transferred onto a project map. All potential land coverage and existing land coverage was calculated in a CAD generated base map. The information was then prepared to create the final Land Capability District and Land Coverage maps.

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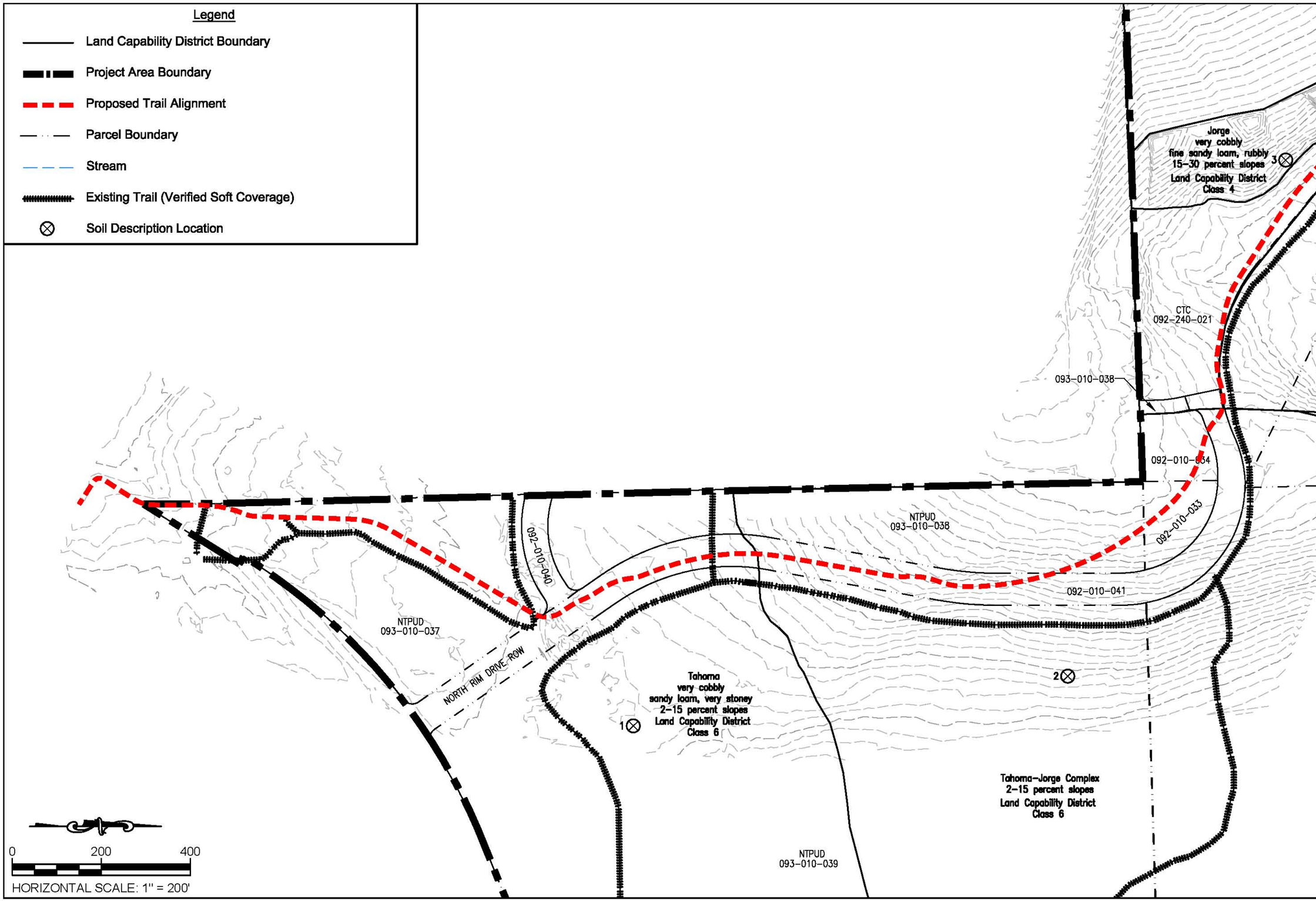


Cardno ENTRIX

Land Capability District, Stream Environment Zone and Land Coverage Map

North Tahoe Bike Trail

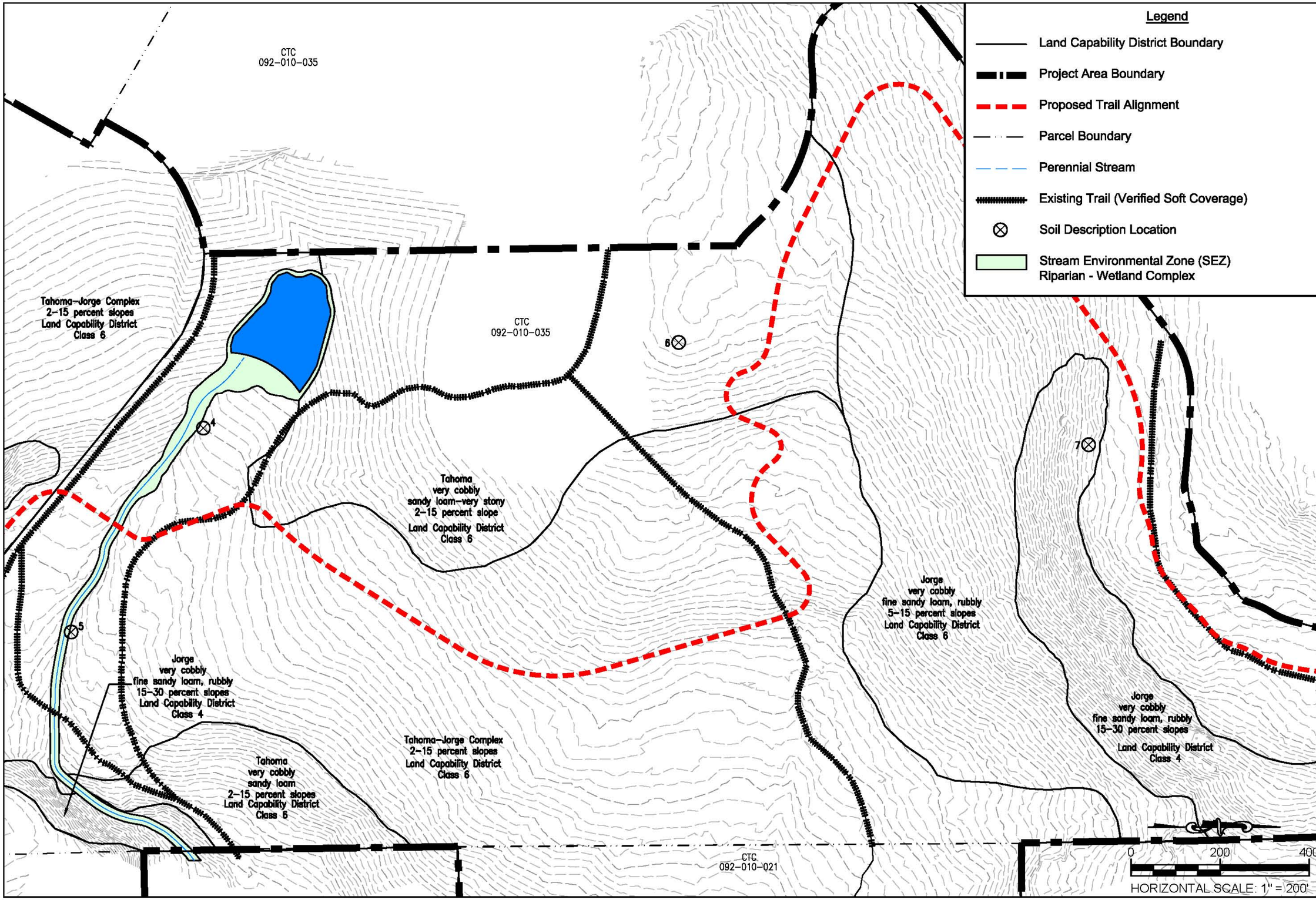
Placer County, California

DATE: 11/17/11

5482 Longley Ln, Suite B
Reno, NV 89511
775.828.4362
WWW.ENTRIX.COM

FIGURE NO.

2



Cardno ENTRIX

Land Capability District, Stream Environment Zone and Land Coverage Map

North Tahoe Bike Trail

Placer County, California

DATE: 11/17/11

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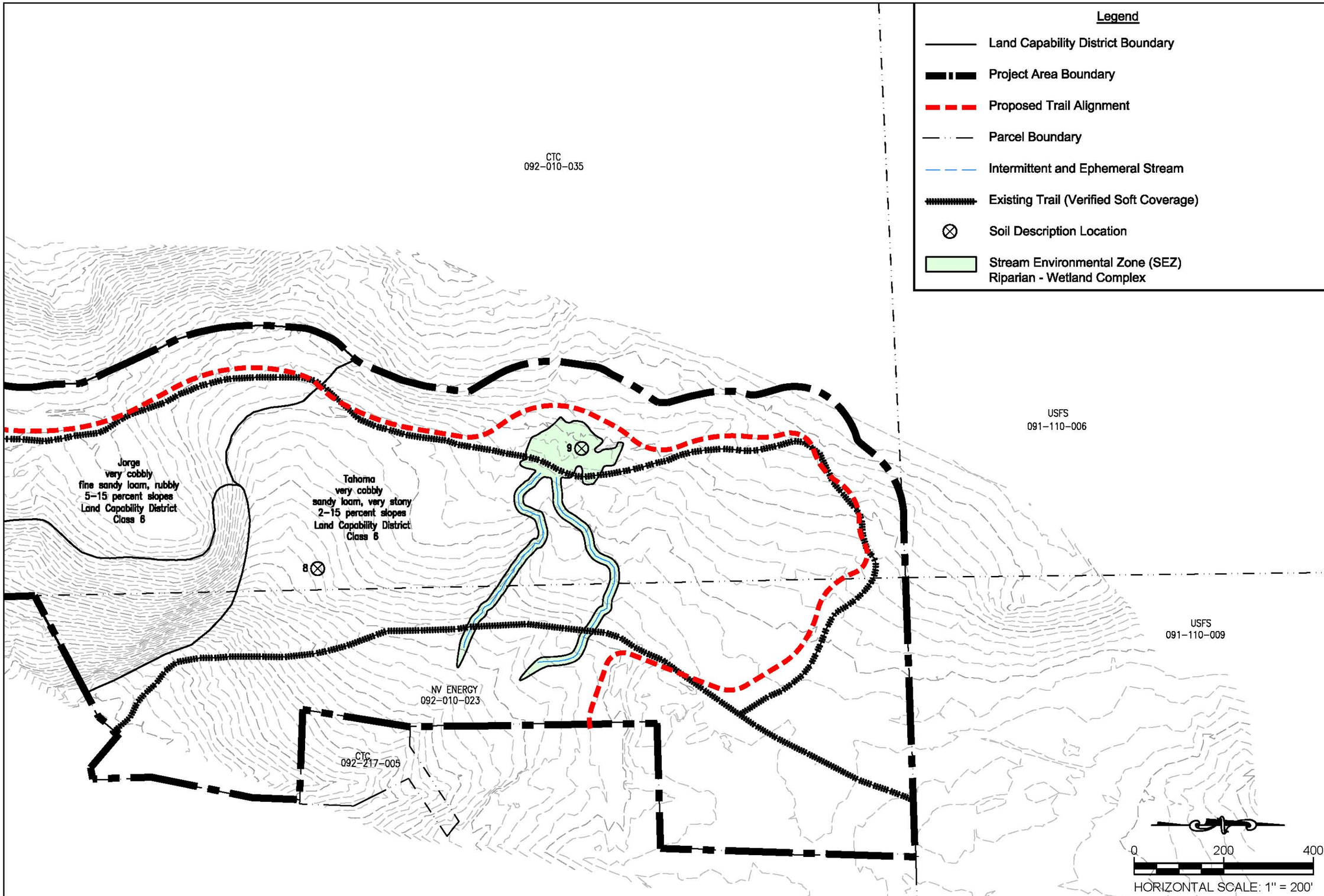
FIGURE NO.

3



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Land Capability District, Stream Environment Zone and Land Coverage Map

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FIGURE NO.

4

Appendix A

Soil Profile Descriptions

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Appendix A: Soil Profile Descriptions

PLEASE NOTE: In the following Appendix, one may notice that the same APN may be listed for more than one soil profile description. The soil profile descriptions were spatially distributed to capture and characterize the entire project area. In some cases, multiple soil profile descriptions were generated on the same parcel due to its comparatively larger size. Please refer to the marked soil profile locations identified on the adjoining project area maps for further clarification as to their specific location.

North Tahoe Public Utility District Parcel
Placer County APN 093-010-039

ENVIRONMENTAL SETTING

This parcel is shown as Land Capability District Class 6 on the TRPA Land Capability Overlay Maps. The Natural Resource Conservation Service Soil Survey update (2007) for the Lake Tahoe Basin places this parcel within the Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) soil map unit. The Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) soil map unit is consistent with the D-1 (Toe slope lands) Bailey geomorphic unit classification. The natural slope is 2 to 15 percent. The soils are deep and moderately well drained. The natural vegetation is White fir and Jeffrey Pine, with an understory of prostrate ceonothus, greenleaf manzanita and bitterbrush.

CONCLUSION

Based on the soil description for this specific location, the soil is consistent with the central concept assigned to the Tahoma soil series listed in the Soil Survey update for the Lake Tahoe Basin (2007). The Tahoma soil series translates to Land Capability District Class 6, under the Bailey Land Capability Classification system (Bailey, 1974) and Chapter 20 of the TRPA Code of Ordinances.

Soil Profile Description # 1:

Soil Map Unit: Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes)

Soil Classification: Loamy-skeletal, isotic, frigid Andic Haploxeralf

Verified Soil Series: Tahoma

Drainage: Moderately Well Drained

Hydrologic Soil Group: B

Oi 2 to 0 inches; Jeffrey pine and White fir needles.

A1 0 to 9 inches; dark yellowish brown (10YR 3/4) very cobbly sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots, few medium coarse roots; many very fine and fine interstitial pores; 15 percent gravel, 20 percent cobbles; clear smooth boundary.

BA 9 to 17 inches; brown (10YR 4/4), very cobbly sandy loam, dark brown (10YR 4/3) moist; moderate, fine granular trending to weak, fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic;; many very fine and fine, few medium and coarse roots, many very fine and fine interstitial pores; 15 percent gravel, 20 percent cobbles; gradual wavy boundary.

Bt1 17 to 28 inches; yellowish brown (7.5 YR 4/4) gravelly sandy clay loam, dark brown (7.5 YR 3/4) moist; moderate, medium subangular blocky structure; hard, friable, slightly sticky and plastic; common fine and few medium and coarse roots; many very fine and fine interstitial pores; 15 percent gravel, 20 percent cobbles; clear wavy boundary.

Bt2 28 to 39 inches; strong brown (7.5 YR 5/6) coarse sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular blocky; hard, friable, slightly sticky and plastic; few fine, medium and coarse roots; many very fine and fine interstitial pores; 20 percent gravel, 20 percent cobbles; clear wavy boundary.

Cr 39+ inches plus: fractured vesicular andesitic agglomerate.

North Tahoe Public Utility District Parcel

Placer County APN 093-010-039

ENVIRONMENTAL SETTING

This parcel is shown as Land Capability District Classes 4 and 6 on the TRPA Land Capability District Overlay Maps. The Natural Resource Conservation Service Soil Survey update (2007) for the Lake Tahoe Basin places this parcel within the Tahoma - Jorge Complex soil map unit (5 to15 percent slopes). The Tahoma - Jorge Complex soil map unit is consistent with the D-1 (Toe slope lands) Bailey geomorphic unit classification. The natural slope is 5 to 15 percent. The natural vegetation is White fir and Jeffrey Pine, with an understory of prostrate ceonothus, greenleaf manzanita and bitterbrush.

CONCLUSION

Based on the soil description for this specific location, a soil series consistent with the designated Tahoma - Jorge Complex soil map unit was verified on this parcel. This soil is consistent with the central concept assigned to the Jorge soil series listed in the Soil Survey for the Lake Tahoe Basin (2007). The Jorge soil series is assigned to Land Capability District Class 6, under the Bailey Land Capability Classification system (Bailey, 1974) and Chapter 20 of the TRPA Code of Ordinances.

Soil Profile Description # 2:

Soil Map Unit: Tahoma - Jorge Complex (5 to 15 percent slopes)

Soil Classification: Loamy-skeletal, isotic, frigid Andic Haploxeralf

Verified Soil Series: Jorge

Drainage: Moderately Well Drained

Hydrologic Soil Group: B

Oi 1 to 0 inches; needles and duff.

A1 0 to 7 inches; yellowish brown (10YR 5/4) very cobbly, sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, loose, nonsticky and nonplastic; many very fine and fine roots, few coarse roots; many very fine and fine interstitial pores; 15 percent gravel, 20 percent cobbles; clear smooth boundary.

A2 7 to 14 inches; yellowish brown (10YR 5/4) very cobbly, sandy loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and slightly plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; common clay films on ped faces and lining pores 15 percent gravel, 20 percent cobbles; clear wavy boundary.

Bt1 14 to 28 inches; brown (7.5YR 5/4) very cobbly sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; 15 percent gravel, 20 percent cobbles; clear wavy boundary.

Bt2 28 to 38 inches; brown (7.5YR 5/4) very cobbly sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; 15 percent gravel, 20 percent cobbles; clear wavy boundary.

C 38 + inches; yellowish brown (10 YR 5/6) very cobbly sandy clay loam, dark yellowish brown (10 YR 4/6) moist; moderate, medium subangular structure; 15 percent gravel, 20 percent cobbles.

California Tahoe Conservancy Parcel

Placer County APN 092-240-021

ENVIRONMENTAL SETTING

The parcel is shown as Land Capability District Classes 4 and 6 on the TRPA Land Capability Overlay Maps. The Soil Conservation Service Soil Survey for the Lake Tahoe Basin places this parcel within the Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) and Tahoma - Jorge Complex (5 to 15 percent slopes) soil map units. Both map units are consistent with the D-1 (Toe Slope Lands, low hazard lands) geomorphic unit classification. This parcel is on an east and southeast facing slope. The natural slopes associated with this portion of the project area are between 5 to 30 percent.

CONCLUSION

Based on the soil description for this specific location, the soils are interpreted to be most analogous to the Jorge soil series. Based on slope and the cited characteristics, the soil on this portion of the parcel would be assigned to Land Capability District Class 4, in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974) and Chapter 20 of the TRPA Code of Ordinances.

Soil Profile Description # 3:

Soil Map Unit: Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes)

Soil Classification: Loamy-skeletal, isotic, frigid Andic Haploxeralf

Verified Soil Series: Jorge

Drainage: Moderately Well Drained

Hydrologic Soil Group: B

Oi 1 to 0 inches; conifer needles and organic duff.

A1 0 to 9 inches; yellowish brown (10YR 5/4) very cobbly sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, loose, nonsticky and nonplastic; many very fine and fine roots, few coarse roots; many very fine and fine interstitial pores; 15 percent gravel, 25 percent cobbles; clear smooth boundary.

A2 9 to 16 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and slightly plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; common clay films on ped faces and lining pores 15 percent gravel, 25 percent cobbles; clear wavy boundary.

Bt1 16 to 25 inches; brown (7.5YR 5/4) gravelly sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; 20 percent gravel, 25 percent cobbles; clear wavy boundary.

Bt2 25 to 35 inches; brown (7.5YR 5/4) gravelly sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; 20 percent gravel, 25 percent cobbles; clear wavy boundary.

C 35 + inches; yellowish brown (10 YR 5/6) coarse sandy clay loam, dark yellowish brown (10 YR 4/6) moist; moderate, medium subangular structure; common clay films on ped faces and lining pores 20 percent gravel, 25 percent cobbles.

California Tahoe Conservancy Parcel

Placer County APN 092-010-035

ENVIRONMENTAL SETTING

The parcel is shown as Land Capability District Classes 1b (SEZ), 4 and 6 on the TRPA Land Capability and Stream Environment Zone Overlay Maps. The 2007 NRCS Soil Survey update for the Lake Tahoe Basin places this parcel within the Tahoma - Jorge complex (2 to 15 percent slopes), Tahoma very cobbly sandy loam (2 to 15 percent slopes), Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) and Jorge, very cobbly fine sandy loam, rubbly (5 to 15 percent slopes) soil map units. These four soil map units are consistent with the D-1 (Toe Slope Lands, low hazard lands) geomorphic unit classification. This parcel is primarily on an east and southeast facing slope. The natural slopes associated with this part of the property are between 2 and 30 percent.

CONCLUSION

Based on the soil description for this specific location, the soils are interpreted to be most analogous to a moist variant or phase of the Tahoma soil series. Based on the cited characteristics, the soil on this portion of the parcel would be assigned to Land Capability District Class 1b (SEZ), in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974) and Chapter 37 of the TRPA Code of Ordinances.

Soil Profile Description # 4: (Dollar Creek Stream Environment Zone)

Soil Map Unit: Tahoma - Jorge Complex (2 to 15 percent slopes)

Soil Classification: Loamy-skeletal, isotic, frigid Typic Endoaquand

Verified Soil Series: Tahoma (moist variant or phase)

Drainage: Moderately Well Drained

Hydrologic Soil Group: C

Oi 1 to 0; Alder leaf litter and organic detritus

A1 0 to 4 inches; brown (10YR 4/2) gravelly sandy loam; dark brown (10YR 3/3) moist; moderate fine granular structure; soft, loose, nonsticky, nonplastic; many fine and medium roots, few coarse roots; many very fine and fine interstitial pores; 20 percent gravel, 20 percent cobblestone; clear wavy boundary.

A2 4 to 12 inches ; brown (10YR 5/3),) gravelly sandy loam; dark brown (10YR 3/3) moist; moderate fine granular structure; soft, loose, nonsticky and nonplastic; many fine and medium and few coarse roots; many very fine and fine interstitial pores; 20 percent gravel, 20 percent cobbles; clear wavy boundary.

Bt1 12 to 20 inches; pale brown (10YR 6/3) gravelly sandy clay loam; dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine, medium and few coarse roots; many very fine and fine interstitial pores; common, fine and medium, moderate, red-brown (7.5 YR 5/6) masses of oxidized iron; 20 percent gravel, 20 percent cobblestone; gradual wavy boundary.

Bt2 20 to 40 inches; light brown (7.5 YR 6/4) gravelly sandy clay loam; dark brown (7.5 YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine and common medium roots; common very fine and fine interstitial pores; common, fine and medium, moderate, red-brown (7.5 YR 5/6) masses of oxidized iron; 20 percent gravel, 20 percent cobbles.

California Tahoe Conservancy Parcel

Placer County APN 092-010-035

ENVIRONMENTAL SETTING

The parcel is shown as Land Capability District Classes 1b, 4 and 6 on the TRPA Land Capability and Stream Environment Zone Overlay Maps. The NRCS Soil Survey update (2007) for the Lake Tahoe Basin places this parcel within the Tahoma-Jorge complex (2 to 15 percent slopes), Tahoma very cobbly sandy loam (2 to 15 percent slopes), Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) and Jorge, very cobbly fine sandy loam, rubbly (5 to 15 percent slopes) soil map units. These four soil map units are consistent with the D-1 (Toe Slope Lands, low hazard lands) geomorphic unit classification. The genesis for this type of setting formed geologically in colluvium derived from andesitic agglomerate. This parcel is primarily on a southeast to east facing slope. The natural slopes associated with this part of the property are between 2 to 30 percent.

CONCLUSION

Based on the soil description for this specific location, the soils are interpreted to be a moist variant or phase of the Jorge soils. Based on slope and the cited characteristics, the soil on this portion of the parcel would be assigned to Land Capability District Class 1b (SEZ), in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974) and Chapter 37 of the TRPA Code of Ordinances.

Soil Profile Description #5: (Dollar Creek Stream Environment Zone)

Soil Map Unit: Tahoma - Jorge Complex (2 to 15 percent slopes)

Soil Classification: Loamy-skeletal, isotic, frigid Typic Endoaquand

Verified Soil Series: Tahoma (moist variant or phase)

Drainage: Moderately Well Drained

Hydrologic Soil Group: C

Oi 1 to 0; Alder leaf litter and organic detritus

A1 0 to 4 inches; brown (10YR 5/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, loose, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobble; clear smooth boundary.

AB 4 to 10 inches; pinkish light brown (7.5YR 7/4), gravelly sandy clay loam, dark brown (7.5YR 4/4) moist; weak fine and medium granular structure; soft, loose, slightly sticky and slightly plastic; few coarse roots; few medium and common very fine and fine roots, many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobble; gradual smooth boundary.

Bt1 10 to 30 inches; brown (7.5 YR 5/4) gravelly sandy clay loam, dark yellowish brown (7.5 YR 4/3) moist; moderate medium subangular structure; soft, friable, slightly sticky and slightly plastic; common fine, medium and coarse roots; many very fine and fine interstitial and tubular pores; few thin clay skins on ped faces and pore linings; common, fine and medium, moderate, red-brown (7.5 YR 5/6) masses of oxidized iron; 15 percent gravel; 20 percent cobble gradual wavy boundary.

Bt2 30 to 40+ inches; reddish brown (7.5 YR 4/4) gravelly sandy clay loam, dark yellowish brown (7.5 YR 4/3) moist; moderate medium subangular structure; hard, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; many very fine and fine interstitial and tubular pores; common thin clay skins on ped faces and pore linings; common, fine and medium, moderate, red-brown (7.5 YR 5/6) masses of oxidized iron; 15 percent gravel; 20 percent cobble.

California Tahoe Conservancy Parcel

Placer County APN 092-010-035

ENVIRONMENTAL SETTING

The parcel is shown as Land Capability District Classes 1b, 4 and 6 on the TRPA Land Capability and Stream Environment Zone Overlay Maps. The NRCS Soil Survey update (2007) for the Lake Tahoe Basin places this parcel within the Tahoma-Jorge complex (2 to 15 percent slopes), Tahoma very cobbly sandy loam (2 to 15 percent slopes), Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) and Jorge, very cobbly fine sandy loam, rubbly (5 to 15 percent slopes) soil map units. These four soil map units are consistent with the D-1 (Toe Slope Lands, low hazard lands) geomorphic unit classification. The genesis for this type of setting formed geologically in colluvium derived from andesitic agglomerate. This parcel is primarily on a southeast to east facing slope. The natural slopes associated with this part of the property are between 2 to 30 percent.

CONCLUSION

Based on the soil description for this specific location, the soils are interpreted to be most analogous to the Tahoma soil series. Based on slope and the cited characteristics, the soil on this parcel would be appropriately assigned to Land Capability District Class 6, in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974) and Chapter 20 of the TRPA Code of Ordinances.

Soil Profile Description #6:

Soil Map Unit: Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes)

Soil Classification: Loamy-skeletal, isotic, frigid Andic Haploxeralf

Verified Soil Series: Tahoma

Drainage: Moderately Well Drained

Hydrologic Soil Group: B

Oi 1 to 0 inches; conifer needles and organic duff.

A1 0 to 10 inches; yellowish brown (10YR 5/4) very stony sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, loose, nonsticky and nonplastic; many very fine and fine roots, few coarse roots; many very fine and fine interstitial pores; 15 percent gravel, 20 percent cobbles; clear smooth boundary.

BA 10 to 24 inches; brown (7.5YR 5/4) gravelly sandy loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; 15 percent gravel, 20 percent cobbles; clear wavy boundary.

Bt1 24 to 36 inches; brown (7.5YR 5/4) gravelly sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular structure; hard, friable, slightly sticky and plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; 15 percent gravel, 20 percent cobbles; clear wavy boundary.

Bt2 36 to 42+ inches; yellowish brown (10 YR 5/6) coarse sandy clay loam, dark yellowish brown (10 YR 4/6) moist; moderate, medium subangular structure; hard, friable, slightly sticky and plastic; common fine, medium and coarse roots; many very fine and fine tubular pores; common clay films on ped faces and lining pores 15 percent gravel, 20 percent cobbles.

California Tahoe Conservancy Parcel
Placer County APN 092-010-035

ENVIRONMENTAL SETTING

The parcel is shown as Land Capability District Classes 1b, 4 and 6 on the TRPA Land Capability and Stream Environment Zone Overlay Maps. The NRCS Soil Survey update (2007) for the Lake Tahoe Basin places this parcel within the Tahoma-Jorge complex (2 to 15 percent slopes), Tahoma very cobbly sandy loam (2 to 15 percent slopes), Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) and Jorge, very cobbly fine sandy loam, rubbly (5 to 15 percent slopes) soil map units. These four soil map units are consistent with the D-1 (Toe slope lands) geomorphic unit classification. The soils of the Jorge and Tahoma series formed in colluvial and residual deposits derived from extrusive igneous (andesitic agglomerate) sources. This parcel is on an east to southeast facing slope. The natural slope for this portion of the parcel is 15 to 30 percent. The natural vegetation is White fir and Jeffrey Pine, with an understory of greenleaf manzanita and huckleberry oak.

CONCLUSION

Based on the soil description for this specific location, the soil was interpreted to be most closely analogous to the Jorge soil series and the Jorge very cobbly, fine sandy loam, rubbly (15 to 30 percent slopes) soil map unit. This soil is associated with Land Capability District Class 4 in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974) and Chapter 20 of the TRPA Code of Ordinances.

Soil Profile Description #7:

Soil Map Unit: Jorge very cobbly fine sandy loam, rubbly (15 to 30 percent slopes)
Soil Classification: Loamy-skeletal, isotic, frigid Andic Haploxeralf
Verified Soil Series: Jorge
Drainage: Moderately Well Drained
Hydrologic Soil Group: B

Oi 2 to 0 inches; Jeffrey pine and White fir needles.
A1 0 to 9 inches; dark yellowish brown (10YR 3/4) gravelly sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots, few medium coarse roots; many very fine and fine interstitial pores; 15 percent gravel, 20 percent cobbles; clear smooth boundary.

AB 9 to 17 inches; brown (10YR 4/4), gravelly loamy coarse sand, dark brown (10YR 4/3) moist; moderate, fine granular trending to weak, fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic;; many very fine and fine, few medium and coarse roots, many very fine and fine interstitial pores; 15 percent gravel, 20 percent cobbles; gradual wavy boundary.

Bt1 17 to 28 inches; yellowish brown (7.5 YR 4/4) gravelly sandy clay loam, dark brown (7.5 YR 3/4) moist; moderate, medium subangular blocky structure; hard, friable, slightly sticky and plastic; common fine and few medium and coarse roots; many very fine and fine interstitial pores; 20 percent gravel, 15 percent cobbles; clear wavy boundary.

Bt2 28 to 44 inches; strong brown (7.5 YR 5/6) coarse sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular blocky; hard, friable, slightly sticky and plastic; few fine, medium and coarse roots; many very fine and fine interstitial pores; 20 percent gravel, 20 percent cobbles; clear wavy boundary.

Cr 44+ inches: fractured vesicular andesitic agglomerate.

California Tahoe Conservancy Parcel
Placer County APN 092-010-035

ENVIRONMENTAL SETTING

The parcel is shown as Land Capability District Classes 1b, 4 and 6 on the TRPA Land Capability and Stream Environment Zone Overlay Maps. The NRCS Soil Survey update (2007) for the Lake Tahoe Basin places this parcel within the Tahoma-Jorge complex (2 to 15 percent slopes), Tahoma very cobbly sandy loam (2 to 15 percent slopes), Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) and Jorge, very cobbly fine sandy loam, rubbly (5 to 15 percent slopes) soil map units. These four soil map units are consistent with the D-1 (Toe slope lands) geomorphic unit classification. The soils of the Jorge and Tahoma series formed in colluvial and residual deposits derived from extrusive igneous (andesitic agglomerate) sources. This parcel is on an east and southeast facing slope. The natural slope for this portion of the parcel is 15 to 30 percent. The natural vegetation is White fir and Jeffrey Pine, with an understory of greenleaf manzanita and squaw carpet and huckleberry oak.

CONCLUSION

Based on the soil description for this specific location, the soil was determined to most analogous to the Tahoma soil series and the Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) map unit which is associated with Land Capability District Class 6 in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974) and Chapter 20 of the TRPA Code of Ordinances.

Soil Profile Description #8:

Soil Map Unit: Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes)
Soil Classification: Fine-loamy mixed isotic, frigid Andic Haploxeralf
Verified Soil Series: Tahoma
Drainage: Moderately Well Drained
Hydrologic Soil Group: B

Oi 2 to 0 inches; Jeffrey pine and White fir needles.

A1 0 to 6 inches; dark yellowish brown (10YR 3/4) gravelly sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots, few medium coarse roots; many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobbles; clear smooth boundary.

AB 6 to 11 inches; brown (10YR 4/4), gravelly sandy loam, dark brown (10YR 4/3) moist; moderate, fine granular trending to weak, fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine, few medium and coarse roots, many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobbles; gradual wavy boundary.

Bt1 11 to 18 inches; yellowish brown (7.5 YR 4/4) gravelly sandy clay loam, dark brown (7.5 YR 3/4) moist; moderate, medium subangular blocky structure; hard, friable, slightly sticky and plastic; common fine and few medium and coarse roots; many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobbles; clear wavy boundary.

Bt2 18 to 28 inches; strong brown (5R 5/6) gravelly clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular blocky; hard, friable, slightly sticky and plastic; few fine, medium and coarse roots; many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobbles; clear wavy boundary.

Bt3 28 to 40+ inches; strong brown (5YR 5/6) gravelly sandy clay loam, dark brown (7.5 YR 4/4) moist; moderate, medium subangular blocky; hard, friable, slightly sticky and plastic; few fine, medium and coarse roots; many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobbles.

California Tahoe Conservancy Parcel
Placer County APN 092-010-035

ENVIRONMENTAL SETTING

The parcel is shown as Land Capability District Classes 1b, 4 and 6 on the TRPA Land Capability and Stream Environment Zone Overlay Maps. The NRCS Soil Survey update (2007) for the Lake Tahoe Basin places this parcel within the Tahoma-Jorge complex (2 to 15 percent slopes), Tahoma very cobbly sandy loam (2 to 15 percent slopes), Jorge, very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) and Jorge, very cobbly fine sandy loam, rubbly (5 to 15 percent slopes) soil map units. These four soil map units are consistent with the D-1 (Toe slope lands) geomorphic unit classification. The soils of the Jorge and Tahoma series formed in colluvial and residual deposits derived from extrusive igneous (andesitic agglomerate) sources. This parcel is on an east and southeast facing slope. The natural slope for this portion of the parcel is 15 to 30 percent. The natural vegetation is White fir and Jeffrey Pine, with an understory of greenleaf Manzanita, squaw carpet and huckleberry oak.

CONCLUSION

Based on the soil description for this specific location, the soil was determined to be a moist variant or phase of the Tahoma soil series which is associated with Land Capability Class 1b in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974) and Chapter 20 of the TRPA Code of Ordinances.

Soil Profile Description #9: (SEZ)

Soil Map Unit: Tahoma -very cobbly sandy loam, very stony (2 to 15 percent slopes)
Soil Classification: Loamy-skeletal, isotic, frigid Typic Endoaquand
Verified Soil Series: Tahoma (moist variant or phase)
Drainage: Moderately Well Drained
Hydrologic Soil Group: C

Oi 1 to 0 inches; conifer litter and organic detritus.

A1 0 to 4 inches; very dark gray (10YR 3/1) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, loose, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 15 percent gravel; 20 percent cobble; clear smooth boundary.

AB 4 to 10 inches; very dark gray (7.5YR 3/1), gravelly sandy clay loam, dark brown (7.5YR 4/4) moist; weak fine and medium granular structure; soft, loose, slightly sticky and slightly plastic; few coarse roots; few medium and common very fine and fine roots, many very fine and fine interstitial pores; common, fine and medium, moderate, red-brown (7.5 YR 5/6) masses of oxidized iron; 15 percent gravel; 20 percent cobble; gradual smooth boundary.

Bt1 10 to 30 inches; brown (7.5 YR 4/4) gravelly sandy clay loam, dark yellowish brown (7.5 YR 4/3) moist; moderate medium subangular structure; soft, friable, slightly sticky and slightly plastic; common fine, medium and coarse roots; many very fine and fine interstitial and tubular pores; few thin clay skins on ped faces and pore linings; common, fine and medium, moderate, red-brown (7.5 YR 5/6) masses of oxidized iron; 15 percent gravel; 20 percent cobble; gradual wavy boundary.

Bt2 30 to 40+ inches; reddish brown (7.5 YR 4/4) gravelly sandy clay loam, dark yellowish brown (7.5 YR 4/3) moist; moderate medium subangular structure; hard, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; many very fine and fine interstitial and tubular pores; common thin clay skins on ped faces and pore linings; common, fine and medium, moderate, red-brown (7.5 YR 5/6) masses of oxidized iron; 15 percent gravel, 20 percent cobble.

Appendix B

Potential Coverage and Existing Coverage Calculations and Tables

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Appendix B: Base Allowable Land Coverage and Existing Land Coverage Calculations and Tables

Table 1: California Tahoe Conservancy Property - Placer County Parcels 092-010-035-000 and NTPUD Right-of-Way 092-010-041-000			
(Portion of APN 092-010-035-000 in the Project Area: 111.77 ac. / 4,868,894 sq. ft.) (Portion of NTPUD Right-of-Way parcel 092-010-041-000 embedded in APN 092-010-035-000: 0.23 ac. / 10,318 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Jorge very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) Land Capability District Class 4	361,476	72,295	0
Jorge very cobbly fine sandy loam, rubbly (5 to 15 percent slopes) Land Capability District Class 6	1,251,385	375,416	6,816
Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) Land Capability District Class 6	1,354,612	406,383	9,249
Tahoma-Jorge Complex (2 to 15 percent slopes) Land Capability District Class 6	1,818,442	545,533	5,982
Stream Environment Zone Land Capability District Class 1b	82,979	830	375
Total for Portion of Parcel Included in the Project Area	4,868,894 (111.91 ac.)	1,400,457	22,422

IMPORTANT NOTE: *A small portion of the NTPUD right-of-way parcel 092-010-041 extends into CTC parcel 092-010-035 at its southeastern boundary. The small area associated with this portion of the NTPUD right-of-way has been included in the area calculations for CTC parcel 092-010-35. The portion of NTPUD right-of-way parcel 092-010-041 which extends into CTC parcel 092-010-035 is 10,318 sq. ft. (0.23 ac.) in total area. The 10,318 sq. ft. (0.23 ac.) associated with the NTPUD right-of-way parcel is represented in the Tahoma-Jorge Complex (2 to 15 percent slopes) soil map unit calculations cited above.*

Table 2: California Tahoe Conservancy Property - Placer County Parcel 092-010-021-000			
(APN 092-010-021-000: 20.53 ac. / 894,335 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Tahoma-Jorge Complex (2 to 15 percent slopes) Land Capability District Class 6	894,335	268,301	2,682
Total	894, 335 (20.53 ac.)	268,301	2,682

Table 3: California Tahoe Conservancy Property - Placer County Parcels 092-240-021-000 and 092-010-039-000			
(APN 092-240-021-000: 21.01 ac. / 915,426 sq. ft.) (APN 092-010-039-000: 0.27 ac. / 11,837 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Jorge very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) Land Capability District Class 4	828,802	165,760	0
Tahoma-Jorge Complex (2 to 15 percent slopes) Land Capability District Class 6	98,461	29,538	0
Total	927,263 (21.28 ac.)	195,298	0

IMPORTANT NOTE: *The small CTC temporary access right-of-way parcel 092-010-039 is immediately adjacent to CTC parcel 092-240-021. The area associated with the CTC right-of-way has been included in the area calculations for CTC parcel 092-240-021.The CTC right-of-way parcel 092-010-039 included with the CTC parcel 092-240-021 is 11,837 sq. ft. (0.27 ac.) in total area. All 11,837 sq. ft. (0.27 ac.) of the right-of-way is in the Tahoma-Jorge Complex (2 to 15 percent slopes) soil map unit and is in included in the calculations cited above.*

Table 4: NV Energy Property - Placer County Parcel 092-010-023-000			
(APN 092-010-023-000: 18.27 ac. / 795,856 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Jorge very cobbly fine sandy loam, rubbly (15 to 30 percent slopes) Land Capability District Class 4	55,767	11,153	0
Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) Land Capability District Class 6	731,627	219,488	9,207
Stream Environment Zone Land Capability District Class 1b	8,462	85	0
Total	795,856 sq. ft. (18.27 ac.)	230,726	9,207

Table 5: California Tahoe Conservancy Property - Placer County Parcel 092-010-034-000			
(APN 092-010-034-000: 0.56 ac. / 24,416 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) Land Capability District Class 6	24,416	7,325	0
Total	24,416 (0.56 ac.)	7,325	0

Table 6: California Tahoe Conservancy Property - Placer County Parcel 092-010-033-000			
(APN 092-010-033-000: 0.56 ac. / 24,707 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Tahoma-Jorge Complex (2 to 15 percent slopes) Land Capability District Class 6	24,707	7,412	0
Total	24,707 (0.56 ac.)	7,412	0

Table 7: North Tahoe Public Utility District Property - Placer County Parcels 092-010-042-000 and 092-010-041-000			
(APN 093-010-042-000 28.03 ac. / 1,234,224 sq. ft.) (Portion of APN 092-010-041-000: 0.45 ac. / 19,717 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Tahoma-Jorge Complex (2 to 15 percent slopes) Land Capability District Class 6	1,254,966	376,490	3,174
Total	1,254,966 (28.81 ac.)	376,490	3,174

IMPORTANT NOTE: *A portion of the NTPUD right-of-way parcel 092-010-041 extends into NTPUD parcel 092-010-042. The area associated with this portion of the NTPUD right-of-way has been included in the area calculations for NTPUD parcel 092-010-042. The portion of NTPUD right-of-way parcel 092-010-041 which extends into NTPUD parcel 092-010-042 is 19,717 sq. ft. (0.45 ac.) in total area. All 19,717 sq. ft. (0.45 ac.) of the right-of-way is in the Tahoma-Jorge Complex (2 to 15 percent slopes) soil map unit and has been included in the calculations cited above.*

Table 8: North Tahoe Public Utility District Property - Placer County Parcels 093-010-039-000 and 092-010-041-000			
(APN 093-010-039-000 44.08 ac. / 1,920,333 sq. ft.) (Portion of APN 092-010-041-000: 2.39 ac. / 104,111 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) Land Capability District Class 6	1,067,585	320,276	6,824
Tahoma-Jorge Complex (2 to 15 percent slopes) Land Capability District Class 6	956,861	287,058	6,250
Total	2,024,446 (46.47 ac.)	607,334	13,074

IMPORTANT NOTE: *A portion of the NTPUD right-of-way parcel 092-010-041 extends into NTPUD parcel 092-010-039. The area associated with this portion of the NTPUD right-of-way has been included in the area calculations for NTPUD parcel 092-010-039. The portion of NTPUD right-of-way parcel 092-010-041 which extends into NTPUD parcel 092-010-039 is 104,111 sq. ft. (2.39 ac.) in total area. The area associated with this portion of the NTPUD right-of-way parcel is distributed between two different soil map units; as cited in the Table above. Hence, 50,501 sq. ft. of the right-of-way is in the Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) soil map unit and 53,610 sq. ft. is in the Tahoma-Jorge Complex (2 to 15 percent slopes) soil map unit.*

Table 9: North Tahoe Public Utility District Property - Placer County Parcel 093-010-038-000			
APN 093-010-038-000: 4.96 ac. / 216,261 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) Land Capability District Class 6	216,261	64,878	405
Total	216,261 (4.96 ac.)	64,878	405

Table 10: North Tahoe Public Utility District Property - Placer County Parcels 093-010-037-000 and 092-010-040-000			
(APN 093-010-037-000: 5.07 ac. / 221,034 sq. ft.) (Portion of APN 092-010-040-000: 0.35 ac. / 15,427 sq. ft.)			
Soil Map Unit and Land Capability District Class	Soil Map Unit and Land Capability District (Square Feet)	Verified Base Allowable Coverage (Square Feet)	Verified Existing Soft Coverage (Square Feet)
Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) Land Capability District Class 6	236,459	70,938	3,408
Total	236,459 (5.42 ac.)	70,938	3,408

IMPORTANT NOTE: *A small portion of the NTPUD right-of-way parcel 092-010-040 extends into NTPUD parcel 092-010-037. The area associated with this portion of the NTPUD right-of-way has been included in the area calculations for NTPUD parcel 092-010-037. 15,427 sq. ft. (0.35 ac.) of the NTPUD right-of-way parcel extends into the designated Project Area. The entire area associated with this portion of the NTPUD right-of-way parcel is assigned to the Tahoma very cobbly sandy loam, very stony (2 to 15 percent slopes) soil map unit.*

Appendix C

Dollar Creek Shared Use Trail Project Historic Aerial Image Analysis (1969)

HISTORIC AERIAL IMAGE ANALYSIS FOR THE DOLLAR HILL SHARED-USE TRAIL PROJECT

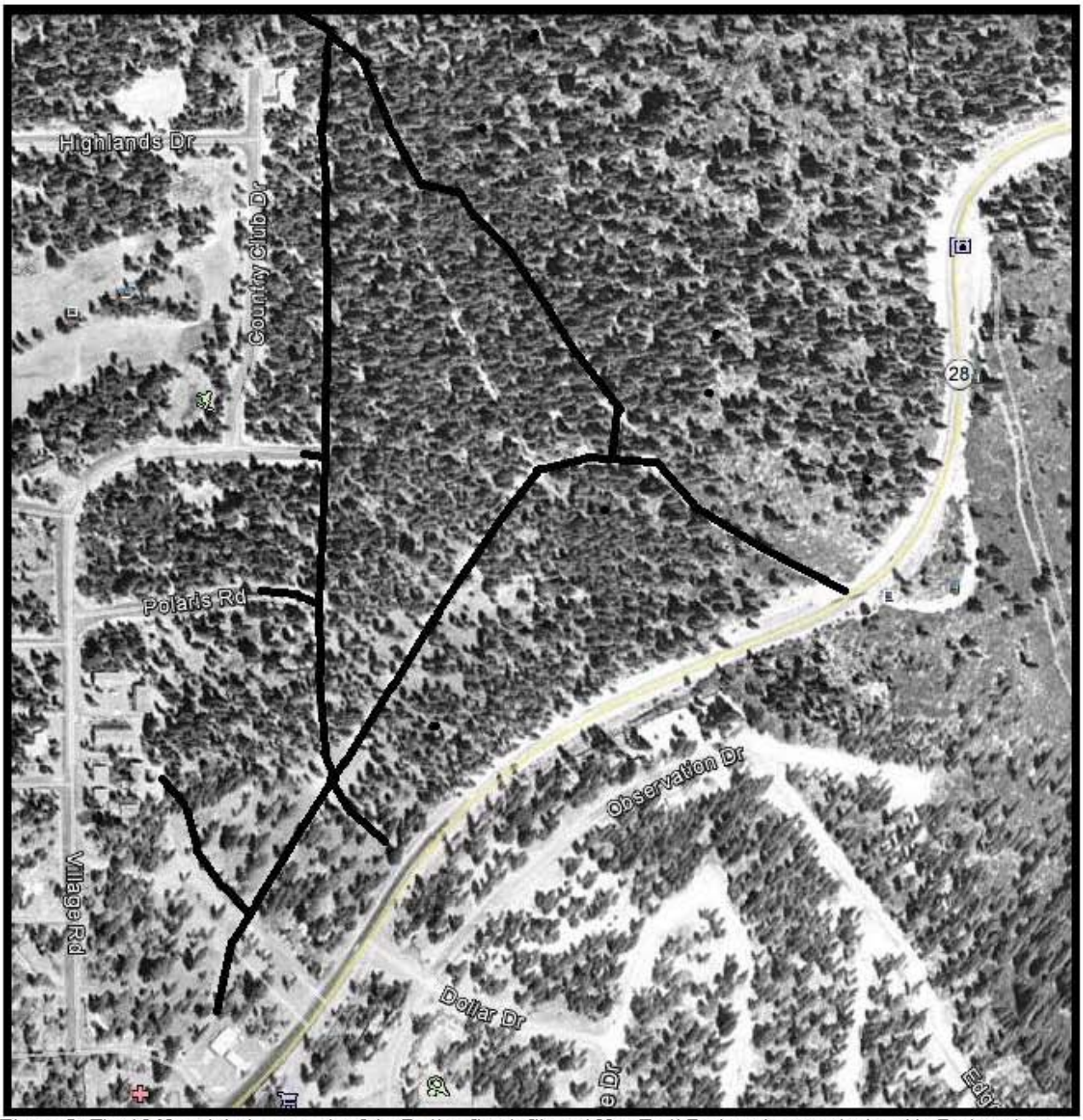

Figure 5: The 1969 aerial photograph of the Dollar Creek Shared-Use Trail Project Area as depicted in Project Area Map 1 (Figure 2) with a tracing of the trails (soft coverage) that existed at that time in the southern third of the Project Area.

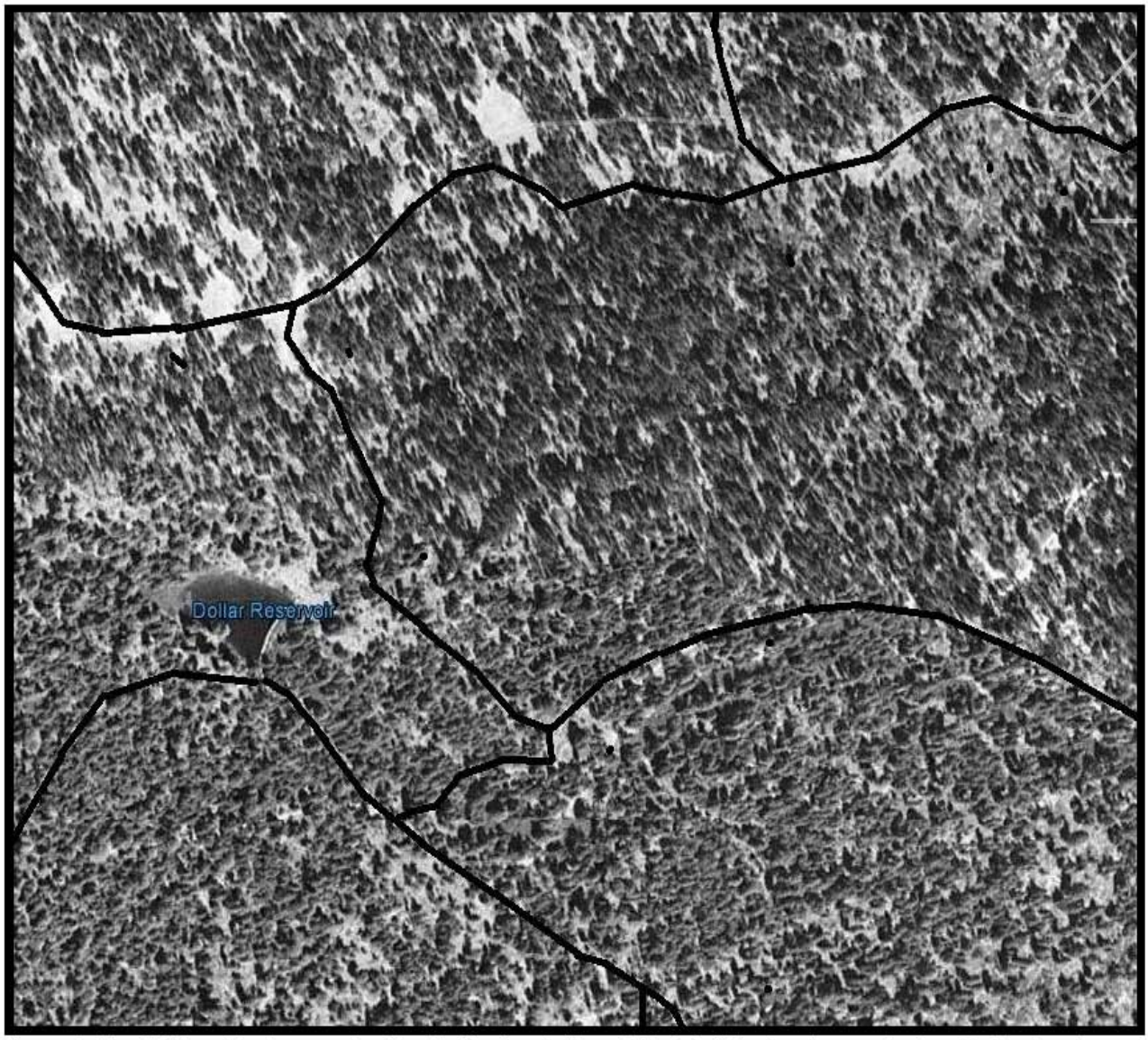

Figure 6: The 1969 aerial photograph of the Dollar Creek Shared-Use Trail Project Area as depicted in Project Area Map 2 (Figure 3) with a tracing of the trails (soft coverage) that existed at that time in the middle third of the Project Area.

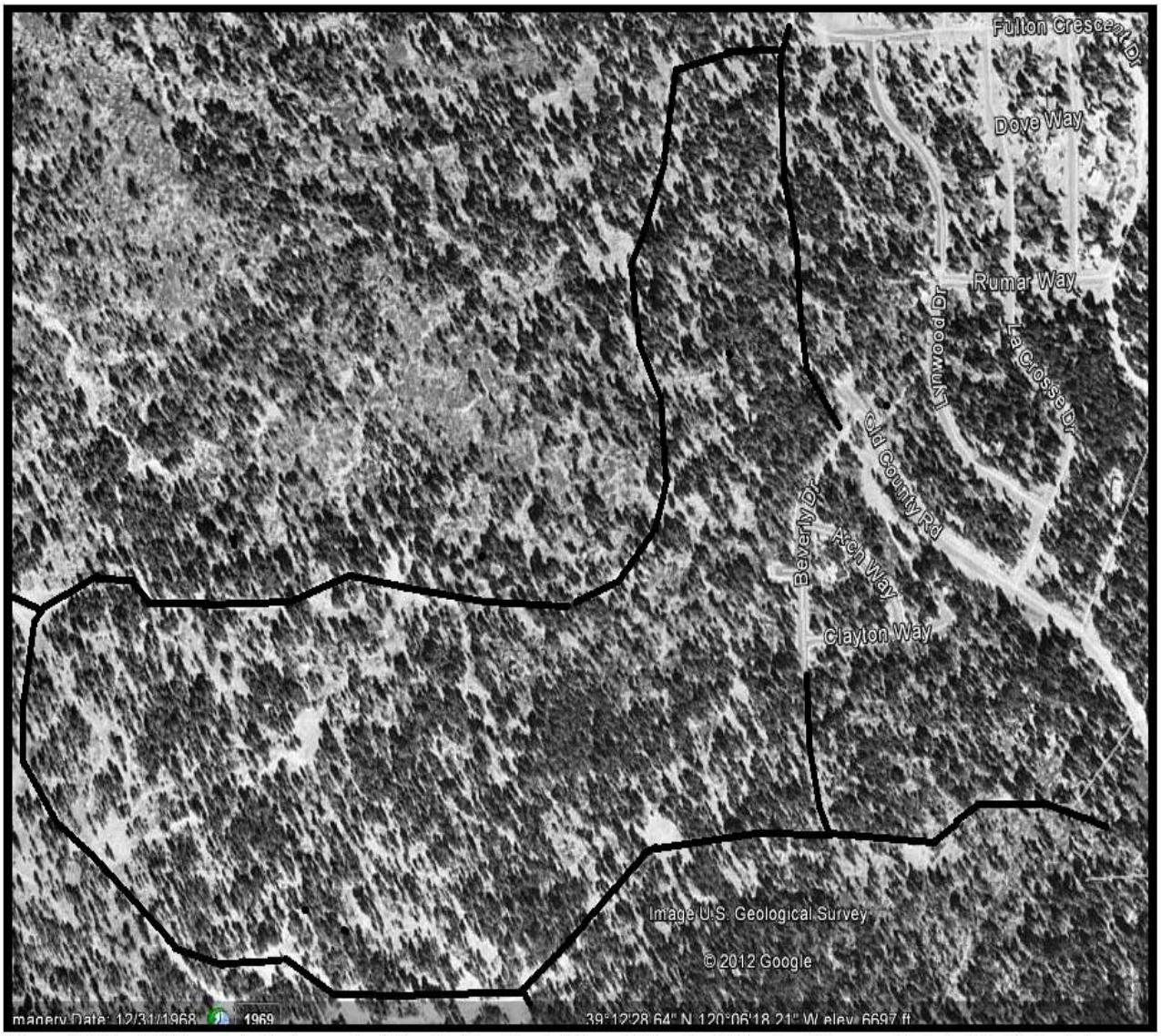

Figure 7: The 1969 aerial photograph of the Dollar Creek Shared-Use Trail Project Area as depicted in Project Area Map 3 (Figure 4) with a tracing of the trails (soft coverage) that existed at that time in the northern third of the Project Area.

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Initial Site Assessment

Dollar Creek Shared-Use Trail Project
Dollar Drive/SR 28 and Fulton Crescent Road
Placer County
Prepared for Placer County using Caltrans Document Preparation Guidelines

February 2012

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DOLLAR CREEK SHARED-USE TRAIL PROJECT

Initial Site Assessment

Executive Summary

Environmental Science Associates (ESA) has conducted an Initial Site Assessment (ISA) of the Dollar Creek Shared-Use Trail Project (Project) located in Placer County, primarily within California Tahoe Conservancy (Conservancy) and North Tahoe Public Utility District (NTPUD) owned properties, between the intersection of Dollar Drive and SR 28 and the terminus of Fulton Crescent Road (see project location map). The Project establishes a separated shared-use trail, extending the backbone of the existing north shore bicycle trail network, linking residential uses to jobs, schools, shopping, and recreation and community areas. The approximately 2.5 mile long trail will link the existing Tahoe City to Dollar Point trail that ends near the intersection of Dollar Drive and SR 28 to the end of Fulton Crescent Road and will utilize public lands owned by the NTPUD and Conservancy. The property assessed for this ISA includes the immediate area surrounding the proposed trail alignment and is referred to as the "project area" or the "project site" in this report. Adjacent land uses consist of mountain homes and continued mountain terrain. According to ESA's review of historical sources, including historical aerial photographs and topographic maps, the first development in the project area occurred with portions of the existing dirt trail system prior to 1940 with construction of existing residences occurring during the 1960s.

This ISA identifies Recognized Environmental Conditions (RECs) for the project site that may adversely affect roadway construction or project corridor right-of-way acquisition (if required). This ISA was conducted in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-05. This ISA includes a summary of the site reconnaissance conducted on October 11, 2011, a review of environmental databases, and a review of historical data sources. ESA has performed this ISA in general conformance with the scope and limitations of ASTM E 1527-05 for the project site, defined as the Dollar Creek Shared-Use Trail, Placer County, California. Any exceptions to or deletions from these ASTM practices are described later in this report.

This report has revealed no evidence of RECs in connection with the project site. The project site does not appear on any of the searched database lists for RECs. A REC is defined by ASTM Practice E 1527-05 as: "The presence or likely presence of any hazardous substances or petroleum products on a project site under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the project

site or into the ground, groundwater, or surface water of the project site. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state laws and regulations." The EDR environmental database report did not identify the project site on any of the searched databases, however, six properties within the 1/8 mile search radius (1/4 mile total search area) were found to be listed. The location of these sites can be seen in the Corridor Area Map at the end of Appendix C. Two of these sites are Leaking Underground Storage Tanks (LUSTs) that were closed in 2001. No further action is required at those sites. The other sites are locations of underground storage tanks that are not known to have leaked and none of these listed sites are within the Project's area of potential effect (APE) and none of them will be affected or otherwise disturbed by Project construction or operation.

1.0 Introduction

1.1 Purpose and Involved Parties

This ISA documents the evaluation of the project area for indications of "recognized environmental conditions." A REC is defined by the ASTM Practice E 1527-05 as: "The presence or likely presence of any hazardous substances or petroleum products on a project site under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the project site or into the ground, groundwater, or surface water of the project site. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state laws and regulations. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of regulatory governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions."

ESA received authorization from the County of Placer (County), California Department of Transportation (Caltrans), and the primary land owners (Conservancy and the NTPUD) to conduct an ISA of the project site, defined as the Dollar Creek Shared-Use Trail, Placer County, California. This ISA has been prepared for the County and Caltrans, and they (only) have the right to rely on the contents of this ISA.

1.2 Scope of Services, Significant Assumptions, and Limitations

The services provided for this project consisted of the following:

- Provide a description of the project area including current land uses;
- Provide a general description of the topography, soils, geology, and groundwater flow direction;
- Review reasonably ascertainable and reviewable regulatory information published by federal, state, local, tribal, health, and/or environmental agencies pertaining to the project area;

- Review historical data sources for the project area, including aerial photographs, topographic maps, fire insurance maps, city directories, and other readily available development data;
- Conduct an area reconnaissance and an environmental review—including a visual inspection of adjoining properties—with a focus on indications of hazardous substances, petroleum products, wells, storage tanks, solid waste disposal pits and sumps, and utilities;
- Interview current owners and occupants of businesses located near the project area that are likely to use hazardous materials in their operations and interview other persons with knowledge of the development history of the project area;
- Prepare a written report of methods, findings, and conclusions.

The goal of this scope of services is to assist the user in identifying conditions in the project area that may indicate risks regarding hazardous materials storage, disposal, or other impacts. The resulting report may qualify the user for relief from liabilities as one of three "defenses" identified in the 2002 Brownfields Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 9607 (All Appropriate Inquiry subsections). These three defenses include:

1. The "innocent landowner" defense to potential liabilities under 42 United States Code [U.S.C.] §9601.
2. The "contiguous property owner" defense pursuant to 42 U.S.C. §9607q.
3. The "bona fide prospective purchaser" defense pursuant to 42 U.S.C. §9607r.

Federal regulations at 40 Code of Federal Regulations [C.F.R.] Part 312, promulgated by the United States (U.S.) Environmental Protection Agency (EPA), require that liability release be based (in part) on completion of All Appropriate Inquiries (AAI) prior to purchase of a property.

Those inquiries are documented by Phase I reports, or ISAs/Environmental Site Assessments (ESAs). EPA has agreed that the recently developed ASTM guidance (ASTM Practice E 1527-05) specifies and interprets AAI requirements.

Per Caltrans site investigation guidance, Caltrans has a process for evaluating asbestos and lead within a project site, and separate guidance documents provide the methodology and technologies for these specific site investigations. Although asbestos and lead may be present within a site, these issues would be addressed by Caltrans under separate assessment(s). A REC, as defined by ASTM, would not include asbestos and LBP, as these are typical construction waste management issues.

Those land uses and conditions that have the potential to produce or cause site contamination and materials that require special handling have been categorized. These land uses and conditions are grouped into high, medium, and low risk categories. Per the Caltrans Standard Environmental Reference (2010), examples of land uses and conditions determined by Caltrans to pose a "Low Risk to Project Cost, Scope, and Schedule" include asbestos in bridges, retaining walls, etc., and LBP and other lead containing materials on bridges, retaining walls, etc." ESA has made certain assumptions in preparing the scope of this assessment:

- Data gathered from public information sources (i.e., libraries or public regulatory agencies) are accurate and reliable.
- Site operations reflect site conditions relative to potential releases and no intentional concealment of environmental conditions or releases has occurred.
- Interview information is directly reported as gathered by the assessor and is limited by the accuracy of the interviewee's recollection and experience.
- Published geologic information and site observations made by the environmental professional are used to estimate likely contaminant migration pathways in the subsurface. These estimates by the environmental professional are limited in accuracy and are generally cross-referenced with existing information about similar sites and environmental releases in the area.
- Regulatory information is limited to sites discovered after the late 1980s because reliable records were not kept by regulatory agencies prior to that time frame. Where a REC has resulted from historical uses or conditions, but apparently no longer persists at the site, the term "historical REC" is used.

The findings and conclusions presented in this report are based on the procedures described in ASTM Practice E 1527-05, informal discussions with various agencies, a review of the available literature cited in this report, conditions noted at the time of this ISA, and ESA's interpretation of the information obtained as part of this ISA. The findings and conclusions are limited to the specific project and properties described in this report, and by the accuracy and completeness of the information provided by others.

An ISA/Environmental Site Assessment cannot entirely eliminate uncertainty regarding the potential for RECs. Conducting this assessment is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs in connection with a project area within reasonable limits of time and cost. In conducting its services, ESA used a degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession practicing in the same locality. No other warranty is made or intended. This ISA generally conforms to the level of documentation required in ASTM Practice E 1527-05.

2.0 Site Description

2.1 Location and Legal Description

The Project proposes to create an approximately 14 foot wide (to include 10 feet of trail and 2 foot wide clear zones on either side of trail) paved Class 1 bike path primarily within Conservancy and NTPUD owned properties, between the intersection of Dollar Drive and SR 28 and the terminus of Fulton Crescent Road, north of Dollar Point on the northwest shore of Lake Tahoe in Placer County, CA (see the location map located in Appendix A). The Project establishes a separated shared-use trail, extending the backbone of the existing north shore bicycle trail network, linking residential uses to jobs, schools, shopping, and recreation and community areas. The approximately 2.5 mile long trail will link the existing Tahoe City to Dollar Point trail that ends near the intersection of Dollar Drive and SR 28 to the end of Fulton Crescent Road and will utilize public lands owned by the NTPUD and Conservancy. The property assessed for this ISA includes the immediate area

surrounding the proposed trail alignment, known as the area of potential effect (APE), and is referred to as the "project area" or the "project site" in this report. The APE has been established as 15 ft (both sides) from the center-line of the proposed trail alignment to accommodate the entire shared-use trail corridor, including neighborhood connectors, trailhead parking, temporary construction access points and temporary work/staging areas. Adjacent land uses consist of mountain homes and continued mountain terrain. According to ESA's review of historical sources, including historical aerial photographs and topographic maps, the first development in the project area occurred with portions of the existing dirt trail system prior to 1940 with construction of existing residences occurring in the 1960s.

2.2 Site and Vicinity Characteristics

The Project alignment generally follows existing dirt trails and roads constructed on the former Firestone and Dollar Parcels, encompassing other adjacent parcels nearby as needed to improve trail connections or reduce or avoid environmental effects. Residential subdivisions are in close proximity to the beginning and end of this trail segment. The trail passes through mountain terrain typical to the Lake Tahoe area. The Project implements specific goals and policies of the TRPA to provide a non-motorized alternative transportation corridor in the north shore of Lake Tahoe and is consistent with the Conservancy's outdoor recreation program requirements. Trail development details comply with the American Association of State Highway and Transportation Officials (AASHTO) guidelines and American Disability Act (ADA) design standards and may include informal trail consolidation or decommissioning and disturbed land restoration along its length. The Dollar Creek Dam and a collapsed ice house are located near the trail alignment but will not be disturbed or otherwise affected by the proposed Project. In addition to various discarded metal and concrete, litter, including bottles and cans can be found in limited quantities along the trail alignment.

Other than the Dollar Creek Dam and the collapsed ice house, no other improvements are present in the vicinity of the trail alignment or APE. Adjacent land uses consist of mountain homes and continued mountain terrain.

The elevation of the trail alignment ranges from 6500 to 6800 feet above mean sea level (USGS, 1994). The topography in the project area and surrounding areas is mountainous, with an overall slope from west to east. The topography and geographic location suggest that shallow groundwater flows from northwest to southeast.

According to the United States Department of Agriculture, Natural Resources Conservation Service's soil survey maps, soils in the immediate vicinity of the project site are Tahoma very cobbly sandy loam, 2 to 15 percent slopes, very stoney and Tahoma-Jorge complex, 2 to 15 percent slopes. The Tahoma very cobbly sandy loam series consists of well drained soils covered with cobbles, stones or boulders. The Tahoma-Jorge complex is also well drained and covered with cobbles, stones or boulders.

Naturally occurring asbestos (NOA) is known to be present in Placer County. To help identify areas in the county that may contain NOA, the California Department of Conservation, California

Geological Survey (CGS), has prepared a 1:100,000-scale map (Plate 1) of relative likelihood for the presence of naturally occurring asbestos in Placer County. The project site is not located near any of the areas identified as containing Ultramafic Rocks and is mapped as an Area Least Likely to Contain NOA (California Department of Conservation, 2006).

2.3 Description of Structures, Roads, and Other Site Improvements

Many of the existing dirt trails have been in existence since at least the early 1940s with the existing nearby residential homes being constructed in the 1960s. The land uses adjacent to the proposed trail are currently, and historically have been, primarily mountain homes and mountain terrain typical to the area. Other than existing mountain homes, the Dollar Creek Dam and the collapsed ice house, no other improvements are present in the project area.

2.4 Area Geology and Hydrogeology

The Project area is located within the Sierra Nevada Geomorphic Province, specifically the Tahoe-Truckee Sub-section. This province is a 400 mile tilted fault block with the eastern face being more rugged and steep compared to the gentle western slope that plummets beneath the adjacent San Joaquin Valley. The topography in the project area and surrounding areas is mountainous, with an overall slope from west to east. Dollar Creek flows through the project area from west to east and includes a small reservoir behind the Dollar Creek Dam, which will not be affected by the Project.

The Tahoe-Truckee Sub-section contains moderately steep plateaus and steep mountains. Streams form canyons with steep side-slopes. Elevation ranges from 5000 ft along the Truckee River to 9143 ft at Mt. Lola. No water wells were identified within the 1/8 mile radius search area. It is expected that depth to groundwater varies in the vicinity of the project site. Without sufficient water depth and elevation measurements, groundwater flow is determined by topographic features. The topography and geographic location suggest that shallow groundwater flows from northwest to southeast.

3.0 User-Provided Information

The County and Caltrans' intention is to create an approximately 14 foot wide paved Class 1 bike path from Dollar Point to the terminus of Fulton Crescent Road, that will allow riders, along with other trails, to travel from Sugar Pines State Park, east to Squaw Valley, and north to Kings Beach on SR 267. Caltrans has specialized knowledge of spills and related cleanups on California highways, and has no record of spills within one mile of the project site. The County provided a site location map and an exhibit of the proposed trail alignment.

4.0 Records Review

4.1 Environmental Records Review

ESA completed a database search of federal, state, and tribal environmental records for the project site. A computerized environmental information database search was performed for the project site by Environmental Data Resources Inc. (EDR) on November 1, 2011 (EDR, 2011). The databases searched included federal, state, local, and tribal databases as defined by ASTM E 1527-05, plus proprietary databases maintained by EDR. The search radius distances are based on the minimum distances established by ASTM and commonly used for environmental site assessments. In this case the project is linear (a trail), so a 1/8 mile radius search distance from each side of the trail (1/4 mile in total) was used for the database search. The EDR environmental database report did not identify the project site on any of the searched databases, however, six properties within the 1/8 mile search radius (1/4 mile total search area) were found to be listed. The location of these sites can be seen in the Corridor Area Map at the end of Appendix C. Two of these sites are Leaking Underground Storage Tanks (LUSTs) that were closed in 2001. No further action is required at those sites. The other sites are locations of underground storage tanks that are not known to have leaked and none of these listed sites are within the Project's area of potential effect (APE) and none of them will be affected or otherwise disturbed by Project construction or operation. A complete copy of the EDR environmental database report, including a detailed description of all databases searched is included in Appendix C.

4.2 Local Government Information

The Placer County Environmental Health Division has not published a list of all Open Groundwater/Soil Contamination Sites Placer County. There are no known or documented releases of hazardous substances at the project site. The Division of Environmental Health does not have public records or other potentially relevant documents related to the project site.

4.3 Historical Use Information

The objective of reviewing historical use information is to develop a history of previous land uses in the vicinity of the project area and to assess these uses for potential hazardous materials impacts that may affect the project. ESA reviewed the following historical sources that were readily available and reviewable and likely to provide useful information, given the time and cost constraints inherent in ISA projects.

Fire Insurance Maps

Fire insurance maps are produced by private fire insurance companies to indicate uses of the project area on specified dates. ESA requested fire insurance maps from EDR, the copyright holder for the Sanborn map collection. EDR reported that no Sanborn fire insurance map coverage exists for the project site.

Historical Aerial Photographs

Historical aerial photographs are valuable for the environmental assessor to review features of properties along the project corridor over a long period of time. ESA reviewed historical aerial photographs available online. Historical aerial photographs were reviewed from 2005 back to 1969. Coverage was available for four years of that 36-year span, with the longest gap in coverage being 23 years (between 1969 and 1992). The 1969 aerial and each subsequent photograph showed at least portions of the existing dirt trail system, existing mountain residences, and the Dollar Creek Dam.

4.4 Environmental Liens and Additional Information

No information regarding the chain-of-title ownership history or environmental liens recorded against the project site was provided by the user. Environmental lien searches were not conducted as part of the scope of work for this project.

4.5 Summary of Previous Environmental Investigations

No previous environmental investigations were reviewed for this report.

5.0 Site Reconnaissance

5.1 Site Reconnaissance

On October 11, 2011 ESA conducted a reconnaissance of the trail alignment and surrounding land uses. The weather that day was clear and warm, and the trail alignment was accessible from public locations. ESA was able to observe the land composing the proposed trail alignment and adjacent land bordering the trail. Photographs documenting the reconnaissance findings are included in Appendix B.

The entire trail alignment, including the 15-foot from center line APE, was observed for potential RECs. As previously described, immediate surrounding land uses consist of continued mountainous terrain with occasional nearby mountain homes. It is important to note that although “undeveloped” land generally means no structures are present, these properties could potentially have environmental issues as a result of historical use (i.e., dam and ice house construction). Current land uses (those associated with residential activities rather than commercial or industrial uses) surrounding the proposed trail alignment are considered to be of a very low risk of chemical use, solid waste sites, aboveground or belowground storage tanks, etc. Although historical use could have occurred, it is very unlikely and adjacent properties do not currently exhibit these types of uses. Based on the results of the records review and reconnaissance, potential RECs were not observed along, or adjacent to, the trail alignment.

5.2 Known Current and Past Uses of the Site and Adjoining Properties

According to ESA's review of historical sources, including historical aerial photographs and topographic maps, the first development in the project area occurred with portions of the existing dirt trail system prior to 1940 with construction of existing residences occurring during the 1960s.

5.3 Utilities and PCBs

During the site reconnaissance, ESA did not observe any signs indicating subsurface utilities. No pole-mounted transformers, large power substations, or step-down transformers were noted. No spills or hazardous materials response events related to transformers were noted in the EDR report.

6.0 Data Gap Analysis

The ASTM E 1527-05 standard requires a listing of "data gaps" encountered during the investigative process that may affect the validity of the conclusions drawn by the environmental professional. The ASTM E 1527-05 standard also requires that the environmental professional estimate the relative importance of the data gaps. Generally, gaps in available data are related to the availability of historical data sources for specific sites of concern. The environmental professional uses multiple historical data sources as a method to provide coverage for data gaps. Historical information is collected on a recurring basis, and the passage of time between data sets may or may not constitute a significant gap in data coverage. For this project, the following items may constitute a data gap as defined by ASTM:

- Absence of Sanborn fire insurance maps
- Absence of aerial photography prior to 1969

The inability to obtain and review the Sanborn fire insurance maps and the lack of aerial photography prior to 1969 do not appear to present significant data gaps because of the presence of other supporting historical information and the limited development in the area since 1969.

7.0 Findings and Conclusions

ESA has conducted an ISA of the project site, identified as the Dollar Creek Shared-Use Trail, Placer County, California. The ISA was performed in general conformance with the scope and limitations of ASTM Practice E 1527-05. Any exceptions to, or deletions from, this practice are described previously in this report. ESA personnel observed no RECs, as defined in ASTM Practice E 1527-05, in connection with the project site.

While the EDR environmental database report identified six properties within the 1/8 mile search radius (1/4 mile total search area), the database report did not identify the project site on any of the searched databases. Furthermore, none of these listed sites are within the Project's APE and none of them will be affected or otherwise disturbed by Project construction or operation. A complete copy of the EDR environmental database report, including a detailed description of all databases searched is included in Appendix C.

8.0 Recommendations

Recommendations included in this report have been developed through the investigative procedures described in the *Scope of Services, Significant Assumptions, and Limitations* section of this report. These findings should be reviewed within the context of the limitations provided in the *Limitations* section. Based on the location and specific details of the identified risk sites, ESA has identified no RECs in connection with the proposed Project. This conclusion has led to the inclusion of the following statement as required by ASTM E 1527-05:

ESA has performed an Initial Site Assessment in general conformance with the scope and limitations of ASTM E 1527-05 of the proposed Project, defined as the Dollar Creek Shared-Use Trail, Placer County, California. Any exceptions to or deletions from these practices are described in previous sections of this report. This report has revealed no evidence of RECs in connection with the project site.

8.1 Additional Considerations

Health and Safety Plans

Health and safety considerations for construction workers must be taken into account during development of a Health and Safety Plan (HASP) for the project. The HASP should describe appropriate procedures to follow in the event that any contaminated soil or groundwater is encountered during construction activities. Any unknown substances should be tested, handled and disposed of in accordance with appropriate federal, state and local regulations.

9.0 Qualifications of Environmental Professionals

9.1 Signatures and Qualifications

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in Section 312.10 of 42 Code of Federal Regulations [C.F.R.] Part 312. This ISA was conducted under the supervision of a qualified environmental professional. The preceding report has been prepared in general conformance with standard industry practice for performance of Environmental Site Assessments and includes the applicable portions of the investigation procedures codified in ASTM E 1527-05, Standard Practice for Environmental Site Assessments: Environmental Site Assessment Process. The end user of this report may rely on the contents, findings, and conclusions to be accurate within the limitations stated in this report and in the ASTM standard. The report also complies with specific requirements supplied by the client.

Qualified Environmental Professional
Aaron Hecock, AICP
Environmental Planner

Qualified Environmental Professional
Paul Miller
Senior Hazardous Materials Manager

Qualifications of Environmental Professionals

This ISA was performed by the following ESA personnel. Mr. Aaron Hecock, ESA's qualified environmental professional, as defined by ASTM Practice E 1527-05, has 5 years of experience in the assessment of impacted properties and compliance with environmental regulations. He has a Masters Degree in City and Regional Planning from Cal Poly San Luis Obispo and a B.A. in Political Science from The University of Arizona.

Qualifications of QA/QC Review Professionals

Reviews for quality assurance, quality control, and technical peer review were performed by the following ESA personnel. Mr. Paul Miller, ESA's qualified environmental professional, as defined by ASTM Practice E 1527-05, has more than 21 years of experience in the assessment and remediation of impacted properties and compliance with environmental regulations. He has a B.A. in Zoology from Miami University, a M.S. in Zoology and Entomology from Colorado State University and is a Registered Environmental Assessor (# 00926). In addition, Mr. Miller was for approximately 10 years a Certified Asbestos Building Inspector and Management Planner under the EPA's AHERA programs. Mr. Miller's technical areas of expertise include energy, integrated waste management, air quality and noise analyses. With a broad range of environmental skills, he has applied his background since 1986 to CEQA and NEPA environmental assessments and has been integral in the preparation of over 250 CEQA and NEPA environmental documents, including project manager for more than 18 major EIRs.

10.0 References

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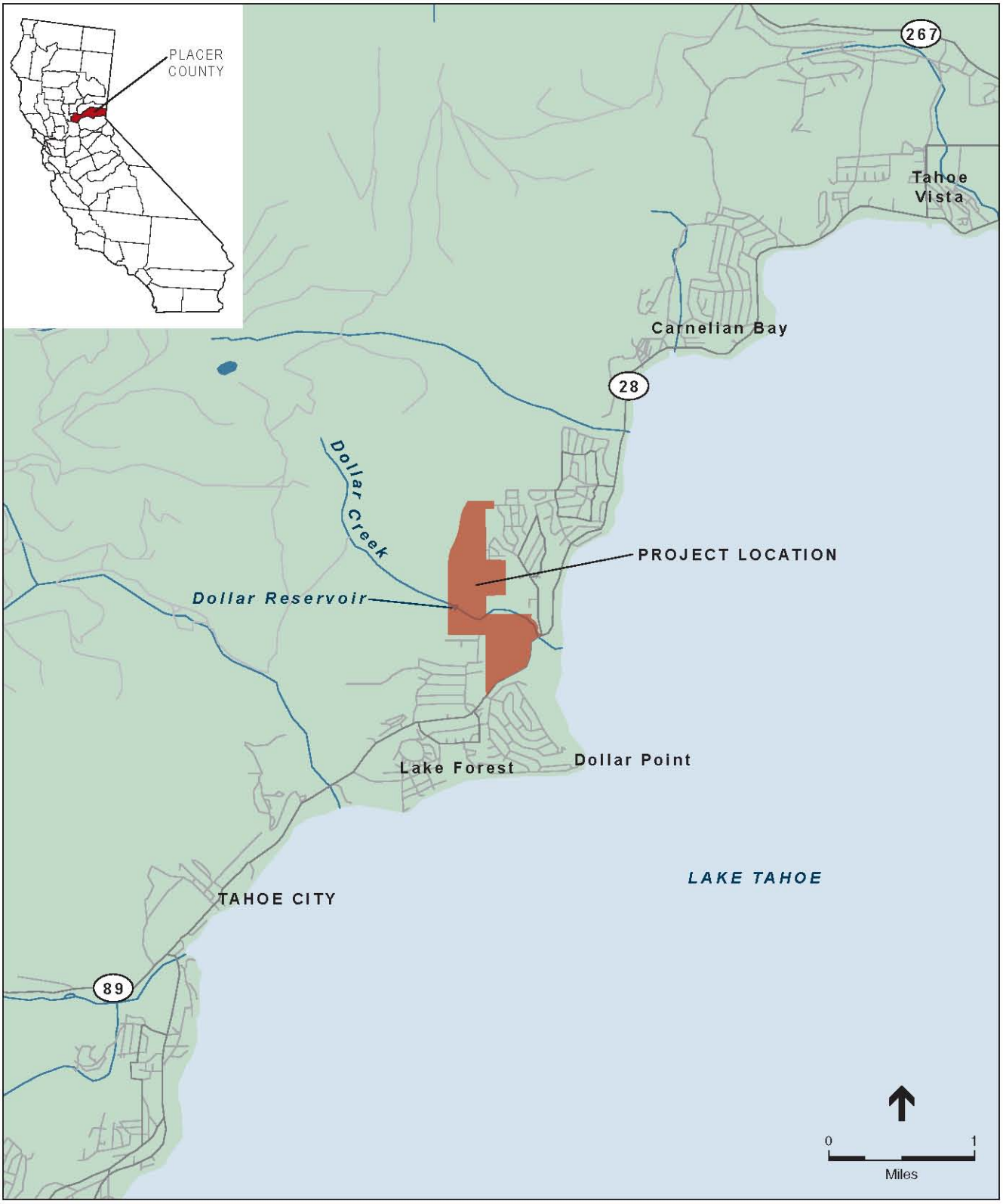
Appendix A
Location Figure



SOURCE: DeLorme Street Atlas USA, 2000; and ESA, 2011

Dollar Creek Shared-Use Trail Project . 211433

Appendix A

Regional Location Map

Appendix B
Site Photographs

ESA

PHOTOGRAPH 1. Existing dirt trail with surrounding natural landscape.

PHOTOGRAPH 2. Typical landscape adjacent to proposed trail alignment.

SOURCE: ESA, 2011

PHOTOGRAPH 3. Discarded metal piping along trail alignment.

PHOTOGRAPH 4. Discarded concrete block along trail alignment.

SOURCE: ESA, 2011

Appendix C
EDR Report

ESA

Dollar Creek Shared-Use Trail Project
Tahoe City, CA 96145

Inquiry Number: 3196844.1s
November 01, 2011

EDR DataMap™ Corridor Study

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

TAHOE CITY, CA 96145
TAHOE CITY, CA 96145

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Treatment, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems

EXECUTIVE SUMMARY

ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US HIST CDL	National Clandestine Laboratory Register
PCB TRANSFORMER	PCB Transformer Registration Database
FEDERAL FACILITY	Federal Facility Site Information listing
COAL ASH DOE	Sleam-Electric Plan Operation Data
FEMA UST	Underground Storage Tank Listing
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List

STATE AND LOCAL RECORDS

HIST Cal-Sites	Historical Calsites Database
CA BOND EXP. PLAN	Bond Expenditure Plan
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
SWF/LF	Solid Waste Information System
WDS	Waste Discharge System
WMUDS/SWAT	Waste Management Unit Database
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
SWRCY	Recycler Database
SLIC	Statewide SLIC Cases
HIST UST	Hazardous Substance Storage Container Database
LIENS	Environmental Liens Listing
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
AST	Aboveground Petroleum Storage Tank Facilities
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
CDL	Clandestine Drug Labs
ENF	Enforcement Action Listing
RESPONSE	State Response Sites
EMI	Emissions Inventory Data
ENVIROSTOR	EnviroStor Database
HAULERS	Registered Waste Tire Haulers Listing
HWP	EnviroStor Permitted Facilities Listing
MWMP	Medical Waste Management Program Listing
PROC	Certified Processors Database
HWT	Registered Hazardous Waste Transporter Database

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land
INDIAN VCP	Voluntary Cleanup Priority Listing

EXECUTIVE SUMMARY

EDR PROPRIETARY RECORDS

Manufactured Gas Plants..... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL RECORDS

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 04/14/2010 has revealed that there is 1 FINDS site within the searched area.

Site	Address	Map ID	Page
EQUILON ENTERPRISES	HWY 28/ FABIAN WY	5	8

STATE AND LOCAL RECORDS

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 HIST CORTESE site within the searched area.

Site	Address	Map ID	Page
POOL AND RECREATION AREA	***170 OBSERVATION DR***	***6***	***10***

EXECUTIVE SUMMARY

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 09/19/2011 has revealed that there are 2 LUST sites within the searched area.

Site	Address	Map ID	Page
POOL AND RECREATION AREA Status: Completed - Case Closed	***170 OBSERVATION DR***	***6***	***10***
DOLLAR POINT HOMEOWNERS ASSOCI	***170 OBSERVATION DRIVE***	***6***	***11***

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there is 1 CA FID UST site within the searched area.

Site	Address	Map ID	Page
DOLLAR POINT SHELL	***3145 N LAKE BLVD***	***3***	***5***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 09/19/2011 has revealed that there is 1 UST site within the searched area.

Site	Address	Map ID	Page
SHELL/DOLLAR POINT STATION	3205 NORTH LAKE BLVD	2	5

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within the searched area.

Site	Address	Map ID	Page
DOLLAR POINT SHELL	***3145 N LAKE BLVD***	***3***	***5***

EXECUTIVE SUMMARY

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2010 has revealed that there are 3 HAZNET sites within the searched area.

Site	Address	Map ID	Page
DOLLAR POINT AUTO CARE	***3205 N LAKE BLVD***	***2***	***3***
SIERRA MULTI SPECIALTY MEDICAL	3190 FABIAN WY	4	7
EQUILON ENTERPRISES LLC	HWY 28/ FABIAN WY	5	9

EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

Database	Total Plotted
FEDERAL RECORDS	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	0
RCRA-CESQG	0
RCRA-NonGen	0
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	0
HMIRS	0
DOT OPS	0
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
DEBRIS REGION 9	0
ODI	0
MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	1
RAATS	0
SCRD DRYCLEANERS	0
US HIST CDL	0
PCB TRANSFORMER	0
FEDERAL FACILITY	0
COAL ASH DOE	0
FEMA UST	0
COAL ASH EPA	0
STATE AND LOCAL RECORDS	
HIST Cal-Sites	0

MAP FINDINGS SUMMARY

Database	Total Plotted
CA BOND EXP. PLAN	0
SCH	0
Toxic Pits	0
SWF/LF	0
WDS	0
WMUDS/SWAT	0
NPDES	0
Cortese	0
HIST CORTESE	1
SWRCY	0
LUST	2
CA FID UST	1
SLIC	0
UST	1
HIST UST	0
LIENS	0
SWEEPS UST	1
CHMIRS	0
LDS	0
MCS	0
AST	0
Notify 65	0
DEED	0
VCP	0
DRYCLEANERS	0
WIP	0
CDL	0
ENF	0
RESPONSE	0
HAZNET	3
EMI	0
ENVIROSTOR	0
HAULERS	0
HWP	0
MWMP	0
PROC	0
HWT	0

TRIBAL RECORDS

INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

1 **TAHOE CROSS COUNTRY SKI AREA INC** **CA PLACER CO. MS** **S110710230**
925 COUNTRY CLUB DR **N/A**
TAHOE CITY, CA 96145

PLACER CO. MS:

Facility ID:	PR0007555
Facility Status:	Active
Program Element Code:	2105
Program:	HAZMAT - ABOVE GROUND NO WASTE
Record Num:	FA0003376
District Code:	60

Facility ID:	PR0014248
Facility Status:	Active
Program Element Code:	2117
Program:	CUPA CERS Surcharge
Record Num:	FA0003376
District Code:	60

---

2 **DOLLAR POINT AUTO CARE** **CA PLACER CO. MS** **S104548997**
3205 N LAKE BLVD **HAZNET** **N/A**
TAHOE CITY, CA 96145

PLACER CO. MS:

Facility ID:	PR0007578
Facility Status:	Closed
Program Element Code:	2106
Program:	HAZMAT - ABOVE GROUND WITH WASTE
Record Num:	FA0004414
District Code:	6

Facility ID:	PR0008222
Facility Status:	Closed
Program Element Code:	2270
Program:	SMALL QUANTITY GENERATOR
Record Num:	FA0004414
District Code:	6

Facility ID:	PR0001304
Facility Status:	Closed
Program Element Code:	2304
Program:	UNDERGROUND STORAGE TANKS - 4 TANKS
Record Num:	FA0000813
District Code:	6

Facility ID:	PR0002916
Facility Status:	Closed
Program Element Code:	2112
Program:	AS/US HAZMAT-NO WASTE, =>20,000/MONTH
Record Num:	FA0000813
District Code:	6

HAZNET:

Year:	2007
Gepaid:	CAL000208219
Contact:	KEN GILBERT/OWNER
Telephone:	5305835885
Mailing Name:	Not reported
Mailing Address:	PO BOX 7368

DOLLAR POINT AUTO CARE (Continued) **S104548997**

Mailing City,St,Zip: TAHOE CITY, CA 961450000
Gen County: Placer
TSD EPA ID: NVT330010000
TSD County: 99
Waste Category: Unspecified oil-containing waste
Disposal Method: LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons: 0.63
Facility County: Placer

Year: 2006
Gepaid: CAL000208219
Contact: KEN GILBERT/OWNER
Telephone: 5305835885
Mailing Name: Not reported
Mailing Address: PO BOX 7368
Mailing City,St,Zip: TAHOE CITY, CA 961450000
Gen County: Placer
TSD EPA ID: NVD982358483
TSD County: 99
Waste Category: Aqueous solution with total organic residues less than 10 percent
Disposal Method: H01
Tons: 0.68
Facility County: Placer

Year: 2005
Gepaid: CAL000208219
Contact: KEN GILBERT/OWNER
Telephone: 5305835885
Mailing Name: Not reported
Mailing Address: PO BOX 7368
Mailing City,St,Zip: TAHOE CITY, CA 961450000
Gen County: Placer
TSD EPA ID: NVD982358483
TSD County: 99
Waste Category: Waste oil and mixed oil
Disposal Method: R01
Tons: 0.93
Facility County: Not reported

Year: 2004
Gepaid: CAL000208219
Contact: KEN GILBERT/OWNER
Telephone: 5305835885
Mailing Name: Not reported
Mailing Address: PO BOX 7368
Mailing City,St,Zip: TAHOE CITY, CA 961450000
Gen County: Placer
TSD EPA ID: NVD982358483
TSD County: 99
Waste Category: Waste oil and mixed oil
Disposal Method: R01
Tons: 0.93
Facility County: Not reported

Year: 2003
Gepaid: CAL000208219

DOLLAR POINT AUTO CARE (Continued) **S104548997**

Contact:	KEN GILBERT/OWNER
Telephone:	5305835885
Mailing Name:	Not reported
Mailing Address:	PO BOX 7368
Mailing City,St,Zip:	TAHOE CITY, CA 961450000
Gen County:	Placer
TSD EPA ID:	NVD982358483
TSD County:	Placer
Waste Category:	Not reported
Disposal Method:	Not reported
Tons:	0.33
Facility County:	Placer

Click this hyperlink while viewing on your computer to access
4 additional CA_HAZNET: record(s) in the EDR Site Report.

---

2 **SHELL/DOLLAR POINT STATION** **UST** **U003731308**
3205 NORTH LAKE BLVD **N/A**
TAHOE CITY, CA 96145

UST:

Facility ID:	16202
Latitude:	39.19318
Longitude:	-120.10407

---

3 **DOLLAR POINT SHELL** **CA FID UST** **S101589793**
3145 N LAKE BLVD **SWEEPS UST** **N/A**
TAHOE CITY, CA 95730

CA FID UST:

Facility ID:	31001776
Regulated By:	UTNKA
Regulated ID:	00055246
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	9165835885
Mail To:	Not reported
Mailing Address:	P O BOX
Mailing Address 2:	Not reported
Mailing City,St,Zip:	TAHOE CITY 95730
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

SWEEPS UST:

Status:	A
Comp Number:	55246
Number:	1
Board Of Equalization:	44-017289
Ref Date:	09-20-90
Act Date:	09-20-90
Created Date:	02-29-88

DOLLAR POINT SHELL (Continued) **S101589793**

Tank Status:	A
Owner Tank Id:	1
Swrcb Tank Id:	31-000-055246-000001
Actv Date:	09-20-90
Capacity:	8000
Tank Use:	M.V. FUEL
Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	5

Status:	A
Comp Number:	55246
Number:	1
Board Of Equalization:	44-017289
Ref Date:	09-20-90
Act Date:	09-20-90
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	7686-0349-REG1
Swrcb Tank Id:	31-000-055246-000002
Actv Date:	09-20-90
Capacity:	5000
Tank Use:	M.V. FUEL
Stg:	P
Content:	LEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	55246
Number:	1
Board Of Equalization:	44-017289
Ref Date:	09-20-90
Act Date:	09-20-90
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	7686-0349-REG2
Swrcb Tank Id:	31-000-055246-000003
Actv Date:	09-20-90
Capacity:	5000
Tank Use:	M.V. FUEL
Stg:	P
Content:	LEADED
Number Of Tanks:	Not reported

Status:	A
Comp Number:	55246
Number:	1
Board Of Equalization:	44-017289
Ref Date:	09-20-90
Act Date:	09-20-90
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	7686-0349-RU-1
Swrcb Tank Id:	31-000-055246-000004
Actv Date:	09-20-90
Capacity:	8000
Tank Use:	M.V. FUEL

DOLLAR POINT SHELL (Continued) **S101589793**

Stg:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported
Status:	A
Comp Number:	55246
Number:	1
Board Of Equalization:	44-017289
Ref Date:	09-20-90
Act Date:	09-20-90
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	7686-0349-WO-1
Swrcb Tank Id:	31-000-055246-000005
Actv Date:	09-20-90
Capacity:	550
Tank Use:	OIL
Stg:	W
Content:	WASTE OIL
Number Of Tanks:	Not reported

---

4 **SIERRA MULTI SPECIALTY MEDICAL GROUP** **HAZNET** **S103652389**
3190 FABIAN WY **N/A**
TAHOE CITY, CA 96145

HAZNET:

Year:	1998
Gepaid:	CAL000092536
Contact:	JOSEPH F LOMBARD J TIMOTHY LOM
Telephone:	9165821212
Mailing Name:	Not reported
Mailing Address:	10978 DONNER PASS RD
Mailing City,St,Zip:	TRUCKEE, CA 961614838
Gen County:	Placer
TSD EPA ID:	NVD981639826
TSD County:	99
Waste Category:	Not reported
Disposal Method:	***
Tons:	.0000
Facility County:	Placer
Year:	1998
Gepaid:	CAL000092536
Contact:	JOSEPH F LOMBARD J TIMOTHY LOM
Telephone:	9165821212
Mailing Name:	Not reported
Mailing Address:	10978 DONNER PASS RD
Mailing City,St,Zip:	TRUCKEE, CA 961614838
Gen County:	Placer
TSD EPA ID:	NVD981639826
TSD County:	99
Waste Category:	Photochemicals/photoprocessing waste
Disposal Method:	R01
Tons:	.5001
Facility County:	Placer
Year:	1997
Gepaid:	CAL000092536

SIERRA MULTI SPECIALTY MEDICAL GROUP (Continued) **S103652389**

Contact:	JOSEPH F LOMBARD J TIMOTHY LOM
Telephone:	9165821212
Mailing Name:	Not reported
Mailing Address:	10978 DONNER PASS RD
Mailing City,St,Zip:	TRUCKEE, CA 961614838
Gen County:	Placer
TSD EPA ID:	NVD981639826
TSD County:	99
Waste Category:	Photochemicals/photoprocessing waste
Disposal Method:	R01
Tons:	.6835
Facility County:	Placer

Year:	1997
Gepaid:	CAL000092536
Contact:	JOSEPH F LOMBARD J TIMOTHY LOM
Telephone:	9165821212
Mailing Name:	Not reported
Mailing Address:	10978 DONNER PASS RD
Mailing City,St,Zip:	TRUCKEE, CA 961614838
Gen County:	Placer
TSD EPA ID:	NVD981639826
TSD County:	99
Waste Category:	Not reported
Disposal Method:	***
Tons:	.0000
Facility County:	Placer

Year:	1996
Gepaid:	CAL000092536
Contact:	JOSEPH F LOMBARD J TIMOTHY LOM
Telephone:	9165821212
Mailing Name:	Not reported
Mailing Address:	10978 DONNER PASS RD
Mailing City,St,Zip:	TRUCKEE, CA 961614838
Gen County:	Placer
TSD EPA ID:	NVD981639826
TSD County:	99
Waste Category:	Photochemicals/photoprocessing waste
Disposal Method:	***
Tons:	.2083
Facility County:	Placer

Click this hyperlink while viewing on your computer to access
7 additional CA_HAZNET: record(s) in the EDR Site Report.

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5 **EQUILON ENTERPRISES** **FINDS** **1007737724**
HWY 28/ FABIAN WY **N/A**
TAHOE CITY, CA 96145

FINDS:

Registry ID: 110018971380

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal

EQUILON ENTERPRISES (Continued) **1007737724**

facilities.

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5 **EQUILON ENTERPRISES LLC** **HAZNET** **S104574278**
HWY 28/ FABIAN WY **N/A**
TAHOE CITY, CA 95730

HAZNET:

Year:	1999
Gepaid:	CAD981460751
Contact:	EQUILON ENTERPRISES LLC
Telephone:	7132412258
Mailing Name:	Not reported
Mailing Address:	PO BOX 2099
Mailing City,St,Zip:	HOUSTON, TX 772522099
Gen County:	Placer
TSD EPA ID:	CAD009466392
TSD County:	7
Waste Category:	Not reported
Disposal Method:	D99
Tons:	0.275
Facility County:	Placer

Year:	1999
Gepaid:	CAD981460751
Contact:	EQUILON ENTERPRISES LLC
Telephone:	7132412258
Mailing Name:	Not reported
Mailing Address:	PO BOX 2099
Mailing City,St,Zip:	HOUSTON, TX 772522099
Gen County:	Placer
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	T01
Tons:	0
Facility County:	Placer

Year:	1999
Gepaid:	CAD981460751
Contact:	EQUILON ENTERPRISES LLC
Telephone:	7132412258
Mailing Name:	Not reported
Mailing Address:	PO BOX 2099
Mailing City,St,Zip:	HOUSTON, TX 772522099
Gen County:	Placer
TSD EPA ID:	CAD009466392
TSD County:	7
Waste Category:	Empty containers less than 30 gallons
Disposal Method:	R01
Tons:	0.5
Facility County:	Placer

Year:	1999
Gepaid:	CAD981460751
Contact:	EQUILON ENTERPRISES LLC
Telephone:	7132412258
Mailing Name:	Not reported

EQUILON ENTERPRISES LLC (Continued) **S104574278**

Mailing Address:	PO BOX 2099
Mailing City,St,Zip:	HOUSTON, TX 772522099
Gen County:	Placer
TSD EPA ID:	CAD009466392
TSD County:	7
Waste Category:	Other empty containers 30 gallons or more
Disposal Method:	D99
Tons:	9
Facility County:	Placer

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6 **POOL AND RECREATION AREA** **HIST CORTESE** **S102435375**
170 OBSERVATION DR **LUST** **N/A**
TAHOE CITY, CA 96145

CORTESE:

Region:	CORTESE
Facility County Code:	31
Reg By:	LTNKA
Reg Id:	6T0138A

LUST:

Region:	STATE
Global Id:	T0606100332
Latitude:	39.191411
Longitude:	-120.104117
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	09/18/2001
Lead Agency:	LAHONTAN RWQCB (REGION 6T)
Case Worker:	DFS
Local Agency:	PLACER COUNTY
RB Case Number:	6T0138A
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

LUST:

Global Id:	T0606100332
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN REID
Organization Name:	PLACER COUNTY
Address:	565 WEST LAKE BLVD
City:	TAHOE CITY
Email:	jreid@placer.ca.gov
Phone Number:	Not reported

Global Id:	T0606100332
Contact Type:	Regional Board Caseworker
Contact Name:	DOUG SMITH
Organization Name:	LAHONTAN RWQCB (REGION 6T)
Address:	2501 LAKE TAHOE BLVD
City:	SOUTH LAKE TAHOE
Email:	dfsmith@waterboards.ca.gov
Phone Number:	Not reported

POOL AND RECREATION AREA (Continued) **S102435375**

LUST:

Global Id:	T0606100332
Action Type:	ENFORCEMENT
Date:	2001-09-18 00:00:00
Action:	Closure/No Further Action Letter

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6 DOLLAR POINT HOMEOWNERS ASSOCIATIONS **LUST** **S105211897**
170 OBSERVATION DRIVE **CA PLACER CO. MS** **N/A**
TAHOE CITY, CA

LUST REG 6L:

Region:	6L
Case Number:	6T0 138 A
Active OR Closed Site:	Closed
Date Closed:	9/18/01
Type Of Site:	UST

PLACER CO. MS:

Facility ID:	PR0004084
Facility Status:	Closed
Program Element Code:	2301
Program:	UNDERGROUND STORAGE TANK - 1 TANK
Record Num:	FA0002692
District Code:	6

Facility ID:	PR0004085
Facility Status:	Closed
Program Element Code:	2107
Program:	US HAZMAT ONLY-NO WASTE <20,000/month
Record Num:	FA0002692
District Code:	6

Count: 33 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
TAHOE CITY	S105557936	COMMONS BEACH PROJECT	HC 28		WDS, ENF
TAHOE CITY	1004150202	TAHOE CITY PUD PUMP STATION	HIGHWAY 89		LUST
TAHOE CITY	S105698826	TAHOE CITY MAINT. STATION	HIGHWAY 89		LUST
TAHOE CITY	S105698827	CALTRANS	HWY 89		LUST
TAHOE CITY	S105698829	CALTRANS, TAHOE CITY MAINT. STATION	HWY 89		LUST
TAHOE CITY	S105027025	TAHOE CITY MAINTENANCE	HWY 89		WDS, HIST CORTESE, ENF
TAHOE CITY	S104580822	CALTRANS DISTRICT 3	HWY 89		HAZNET
TAHOE CITY	S106516776	CALTRANS HIWAY 89 AT Y	HWY 89		SLIC
TAHOE CITY	S110654871	TAHOE CITY MAINTENANCE STATION	HWY 89 NEAR BRIDGE	96145	LUST
TAHOE CITY	1011556474	LABORATORY SKIN CARE, INC.	P.O. BOX 7469 TAHOE CITY CA 96145	96145	ICIS
TAHOE CITY	S106905401	LAKESIDE TRAIL PHASE IV	COMMONS BEACH / GROVE ST	0	WDS
TAHOE CITY	S109460292	TAHOE CITY TRANSIT CENTER	SW INTER OF HWY 89 & HWY 28		NPDES
TAHOE CITY	S103679946	NORTH TAHOE PUBLIC UTILITY/DOLLAR HILL	SW LAKE BLVD	96145	HAZNET
TAHOE CITY	S111212515	HWY 28 GAS LINE PROJECT	N LAKE BLVD	96145	ENF
TAHOE CITY	S110734285	LFWID WATER MAIN REPLACEMENT PROJECT	LAKE FOREST RD	96145	NPDES
TAHOE CITY	S108753098	PLACER COUNTY FACILITIES SVC	2501 N LAKE TAHOE BLVD	96145	HAZNET
TAHOE CITY	S106089618	COBBLESTONE RESTARAUNT	485 LAKE TAHOE BLVD	96145	HAZNET
TAHOE CITY	A100337336	TAHOE YACHT HARBOR LLC	700 NORTH LAKE	96145	AST
TAHOE CITY	S102005307	TAHOE TREE COMPANY	WEST LAKE BLVD. SO. OF TAHOE C	96145	WDS
TAHOE CITY	S109448068	LAKE TAHOE PARK ECP	LAKE TAHOE PARK		NPDES
TAHOE CITY	1000596915	DAVES ONE HOUR PHOTO	620 N LAKE TAHOE BLVD	96145	RCRA-SQG, FINDS
TAHOE CITY	S105790716	TRUCKEE TAHOHE AIRPORT DIST (TEXACO-TAHOE CITY?)	NORTH LAKE BLVD ?		LUST
TAHOE CITY	S102005374	CHAMBERS LODGE ECP PHASE I	5.25 MILES SO/TAHOE CITY 89	96145	WDS
TAHOE CITY	S110709964	CAL TRANS-TAHOE CITY MAINT STATION	551 NELSON DR	96145	SWF/LF, CA PLACER CO. MS
TAHOE CITY	S102808694	DAVES ONE HOUR PHOTO	620 NLAKE TAHOE BLVD	96145	HAZNET
TAHOE CITY	S105455636	TAHOE AREA REG TRANSIT BUS	W OF TRUCKEE RIVER-RT 89	0	WDS
TAHOE CITY	S106104621	POLARIS CREEK	POLARIS CREEK	0	WDS
TAHOE CITY	S109455861	RESORT AT SQUAW CREEK PHASE II DEVELOPMEN	RESORT AT SQUAW CRK	96145	NPDES
TAHOE CITY	S109936264	CARNELL PAINTING INC	1750 RIVER ROAD HWY	96145	HAZNET
TAHOE CITY	S102434457	NORTH TAHOE PUD DOLLAR HILL	3666 N TAHOE BLVD	96145	LUST
TAHOE CITY	S105027032	NORTH TAHOE PUD DOLLAR HI	3666 TAHOE ST	96145	HIST CORTESE
TAHOE CITY	S110501752	CALTRANS - TAHOE MTCE STATION	TAHOE CITY MTCE STA	96145	EMI
TAHOE CITY	1005584759	HWY 28 GAS LINE PROJECT	UNKNOWN	96145	FINDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 07/12/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 79

Source: EPA
Telephone: N/A
Last EDR Contact: 10/12/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 07/12/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 79

Source: EPA
Telephone: N/A
Last EDR Contact: 10/12/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 07/12/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 79

Source: EPA
Telephone: N/A
Last EDR Contact: 10/12/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/25/2011
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/09/2011
Date Data Arrived at EDR: 09/16/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/09/2011
Date Data Arrived at EDR: 03/15/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 91

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/15/2011
Date Data Arrived at EDR: 07/07/2011
Date Made Active in Reports: 08/08/2011
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/05/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/16/2011
Date Data Arrived at EDR: 03/25/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 07/05/2011
Date Data Arrived at EDR: 07/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 86

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/04/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 07/05/2011
Date Data Arrived at EDR: 07/05/2011
Date Made Active in Reports: 09/30/2011
Number of Days to Update: 87

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/04/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/12/2011
Date Data Arrived at EDR: 02/11/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/08/2011
Date Data Arrived at EDR: 09/16/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 13

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 09/07/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 06/27/2011
Date Data Arrived at EDR: 06/27/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/28/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/20/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 08/12/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 112

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 07/11/2011
Next Scheduled EDR Contact: 09/05/2011
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/01/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 41

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/31/2011
Date Data Arrived at EDR: 09/14/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 15

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/14/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/21/2010
Date Made Active in Reports: 01/28/2011
Number of Days to Update: 99

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 09/08/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 21

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/08/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/17/2010
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 94

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/27/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/07/2011
Date Data Arrived at EDR: 01/21/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2010
Date Data Arrived at EDR: 11/10/2010
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 98

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/19/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/21/2011
Date Data Arrived at EDR: 07/15/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 60

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/11/2011
Date Data Arrived at EDR: 01/13/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/13/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/14/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 41

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/13/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 03/01/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 62

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Biennially

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPAa??s Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010
Date Data Arrived at EDR: 01/11/2011
Date Made Active in Reports: 02/16/2011
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/14/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/19/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/18/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/16/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Varies

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 10/24/2011
Next Scheduled EDR Contact: 02/06/2012
Data Release Frequency: Varies

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 09/13/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/22/2011
Date Data Arrived at EDR: 08/24/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 40

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/24/2011
Next Scheduled EDR Contact: 12/05/2011
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/23/2011
Date Data Arrived at EDR: 08/24/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 40

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/24/2011
Next Scheduled EDR Contact: 12/05/2011
Data Release Frequency: Quarterly

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 10/03/2011
Date Data Arrived at EDR: 10/04/2011
Date Made Active in Reports: 10/25/2011
Number of Days to Update: 21

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/04/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES].

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 29

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Semi-Annually

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Varies

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 05/03/2011
Date Made Active in Reports: 06/15/2011
Number of Days to Update: 43

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

AST: Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 10/11/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 24

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/13/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 09/13/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/28/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/15/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2011
Date Data Arrived at EDR: 08/11/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 29

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 09/13/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/16/2011
Number of Days to Update: 28

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 10/18/2010
Number of Days to Update: 19

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/30/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 09/13/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/15/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 09/14/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/05/2011
Data Release Frequency: Varies

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/09/2010
Date Data Arrived at EDR: 08/11/2010
Date Made Active in Reports: 08/20/2010
Number of Days to Update: 9

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/01/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/18/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/21/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 09/09/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/10/2011
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/20/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 05/05/2011
Date Data Arrived at EDR: 08/02/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 42

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/31/2011
Date Data Arrived at EDR: 02/01/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 48

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 08/04/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 39

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/16/2011
Date Data Arrived at EDR: 06/02/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 103

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/11/2011
Date Data Arrived at EDR: 08/12/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 32

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 05/05/2011
Date Data Arrived at EDR: 08/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2011
Date Data Arrived at EDR: 06/01/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 13

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 08/04/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 39

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/11/2011
Date Data Arrived at EDR: 08/12/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 32

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 07/01/2011
Date Data Arrived at EDR: 08/26/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 18

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 08/04/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 39

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 05/05/2011
Date Data Arrived at EDR: 07/05/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 70

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/04/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 07/21/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/21/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Semi-Annually

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 03/29/2011
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 27

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Varies

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 12/01/2010
Date Data Arrived at EDR: 04/20/2011
Date Made Active in Reports: 05/17/2011
Number of Days to Update: 27

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/30/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 19

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Semi-Annually

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 09/09/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 24

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 08/22/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/18/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/08/2011
Date Data Arrived at EDR: 03/03/2011
Date Made Active in Reports: 03/24/2011
Number of Days to Update: 21

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 10/27/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 20

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 09/13/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/09/2011
Date Data Arrived at EDR: 06/09/2011
Date Made Active in Reports: 07/08/2011
Number of Days to Update: 29

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/28/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 24

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/25/2011
Date Data Arrived at EDR: 07/27/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 15

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/25/2011
Next Scheduled EDR Contact: 11/07/2011
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 08/23/2011
Next Scheduled EDR Contact: 12/05/2011
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/09/2011
Date Data Arrived at EDR: 02/09/2011
Date Made Active in Reports: 03/04/2011
Number of Days to Update: 23

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/24/2011
Next Scheduled EDR Contact: 02/06/2012
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 02/03/2011
Date Data Arrived at EDR: 02/08/2011
Date Made Active in Reports: 03/03/2011
Number of Days to Update: 23

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/24/2011
Next Scheduled EDR Contact: 02/06/2012
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/18/2011
Date Data Arrived at EDR: 07/21/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 21

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/17/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county?s Certified Unified Program Agency database. California?s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/13/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/04/2011
Number of Days to Update: 21

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 07/15/2011
Date Data Arrived at EDR: 07/25/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 17

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/11/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 09/23/2011
Date Data Arrived at EDR: 09/23/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 31

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 09/19/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 34

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/22/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 27

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 08/22/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 27

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/02/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 41

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/16/2011
Number of Days to Update: 24

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/18/2011
Number of Days to Update: 35

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 07/22/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 20

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 07/22/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 20

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/26/2012
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 05/02/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/02/2011
Date Data Arrived at EDR: 07/19/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 23

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/26/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 19

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/09/2010
Date Data Arrived at EDR: 09/15/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 14

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/16/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2010
Date Data Arrived at EDR: 11/16/2010
Date Made Active in Reports: 01/25/2011
Number of Days to Update: 70

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 09/27/2011
Date Data Arrived at EDR: 09/28/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 21

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 24

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 07/13/2011
Date Data Arrived at EDR: 07/15/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 27

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/12/2012
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/20/2011
Date Data Arrived at EDR: 09/22/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 32

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/06/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/10/2011
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 09/01/2011
Date Data Arrived at EDR: 09/01/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 32

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 08/31/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 9

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/31/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 19

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/20/2011
Date Data Arrived at EDR: 09/28/2011
Date Made Active in Reports: 10/25/2011
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/20/2011
Date Data Arrived at EDR: 09/28/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 21

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/05/2011
Date Data Arrived at EDR: 04/06/2011
Date Made Active in Reports: 05/12/2011
Number of Days to Update: 36

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/03/2011
Next Scheduled EDR Contact: 01/16/2012
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 36

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 07/26/2011
Date Data Arrived at EDR: 08/26/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 24

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/23/2011
Next Scheduled EDR Contact: 12/05/2011
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 09/14/2011
Date Data Arrived at EDR: 09/15/2011
Date Made Active in Reports: 10/24/2011
Number of Days to Update: 39

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 01/23/2012
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/23/2011
Next Scheduled EDR Contact: 12/05/2011
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 07/26/2011
Date Data Arrived at EDR: 08/08/2011
Date Made Active in Reports: 09/09/2011
Number of Days to Update: 32

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/31/2011
Next Scheduled EDR Contact: 02/13/2012
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/30/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/19/2011
Number of Days to Update: 29

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/20/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 08/15/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 09/16/2011
Number of Days to Update: 24

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 10/11/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/23/2011
Date Data Arrived at EDR: 08/26/2011
Date Made Active in Reports: 09/19/2011
Number of Days to Update: 24

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 10/28/2011
Next Scheduled EDR Contact: 12/05/2011
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 07/20/2011
Date Made Active in Reports: 08/11/2011
Number of Days to Update: 22

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/18/2011
Next Scheduled EDR Contact: 01/30/2012
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2011
Date Data Arrived at EDR: 08/09/2011
Date Made Active in Reports: 09/16/2011
Number of Days to Update: 38

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/09/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/24/2011
Date Made Active in Reports: 06/30/2011
Number of Days to Update: 6

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/31/2011
Next Scheduled EDR Contact: 12/12/2011
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/15/2011
Number of Days to Update: 27

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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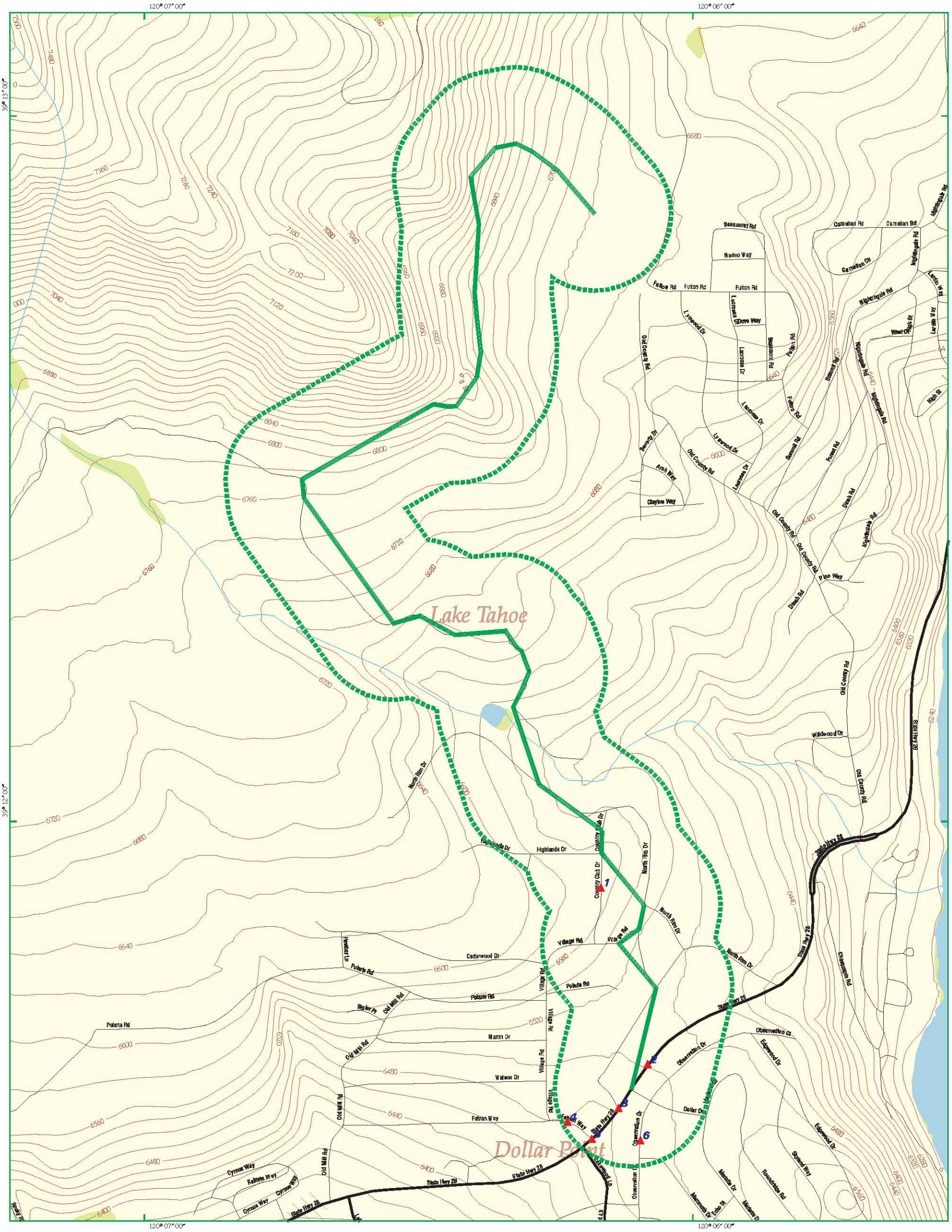

EDR DataMap® - Corridor Study

EDR® Environmental Data Resources Inc

Dollar Creek Shared-Use Trail Project

Tahoe City, CA

- Listed Sites
- Earthquake Epicenters (Richter 5 or greater)
- Search Boundary
- Roads
- Major Roads
- Waterways
- Railroads
- Contour Lines
- Pipelines
- Powerlines
- Fault Lines
- Water
- Superfund Sites
- Federal DOD Sites
- Indian Reservations BIA
- 100-Yr Flood Zones
- National Wetland Inventory

N

0 1/8 1/4

Scale in Miles

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3198844.1s - 01 Nov 11

Dollar Creek Shared-Use Trail Project

Dollar Creek Shared-Use Trail Project

Tahoe City, CA 96145

Inquiry Number: 3196844.2

October 31, 2011

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/31/11

Site Name:	**Client Name:**
Dollar Creek Shared-Use Trail	Environmental Science Assoc.
Dollar Creek Shared-Use Trail	2600 Capitol Ave
Tahoe City, CA 96145	Sacramento, CA 95816
EDR Inquiry # 3196844.2	Contact: Aaron Hecock

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Environmental Science Assoc. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name:	Dollar Creek Shared-Use Trail Project
Address:	Dollar Creek Shared-Use Trail Project
City, State, Zip:	Tahoe City, CA 96145
Cross Street:	
P.O. #	NA
Project:	NA
Certification #	8FC9-4BAE-8730

Sanborn® Library search results
Certification # 8FC9-4BAE-8730

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The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Appendix D
ISA Checklist

ESA

Caltrans Metric

Initial Site Assessment (ISA) Checklist

Project Information

District 3 County Plac Route 28 Post Mile _____ EA _____

Description The Project proposes to create an approximately 14 foot wide paved Cla to the terminus of Fulton Crescent Road. The Project is located primarily within C North Tahoe Public Utility District owned properties, between the intersection of D terminus of Fulton Crescent Road, north of Dollar Point on the northwest shore of

Is the project on the HW Study Minimal-Risk Projects List (HW1)? No

Project Manager _____ phone # _____

Project Engineer _____ phone # _____

Project Screening

Attach the project location map to this checklist to show location of all known and/or potential HW sites identified.

1. Project Features: New R/W? No Excavation? Yes Railroad Involvement? No
   Structure demolition/modification? No Subsurface utility relocation? No
2. Project Setting Placer County
   Rural or Urban Rural
   Current land uses Mountain Terrain
   Adjacent land uses Residential, Mountain Terrain
   (industrial, light industry, commercial, agricultural, residential, etc.)
3. Check federal, State, and local environmental and health regulatory agency records as necessary, to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project.
4. Conduct Field Inspection. Date 10/11/2011 Use the attached map to locate potential or known HW sites.

   STORAGE STRUCTURES / PIPELINES:
   Underground tanks Unknown Surface tanks No
   Sumps No Ponds No
   Drums No Basins No
   Transformers No Landfill No
   Other None

Initial Site Assessment (ISA) Checklist

(continued)

CONTAMINATION: (spills, leaks, illegal dumping, etc.)

Surface staining No Oil sheen No

Odors No Vegetation damage No

Other _____

HAZARDOUS MATERIALS: (asbestos, lead, etc.)

Buildings No Spray-on fireproofing Unknown

Pipe wrap No Friable tile No

Acoustical plaster No Serpentine No

Paint No Other No

5. Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste sites.

6. Other comments and/or observations: Debris including metal and concrete, trash (bottles, cans etc.).

ISA Determination

Does the project have potential hazardous waste involvement? Yes If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Investigation? No If "YES," explain; then give an estimate of additional time required: _____

A brief memo should be prepared to transmit the ISA conclusions to the Project Manager and Project Engineer.

ISA Conducted by Aaron Hecock **Date** 10/11/2011

Dollar Creek Shared-Use Trail Project Water Quality Memorandum

1.0 Introduction

1.1 Purpose and Need of Technical Report

The objective of this Water Quality Memorandum (WQM) report is to evaluate potential impacts of the proposed project on water quality. The WQM identifies direct, indirect, temporary and long-term effects on surface water and groundwater resources potentially resulting from actions of construction, operations and maintenance of the Dollar Creek Shared-Use Trail Project (Project). The WQM describes the design elements, categories of Best Management Practices and construction approach included in the Project proposal for conformance with federal, regional, state and local regulatory requirements and when necessary, additional mitigation measures to reduce potential impacts to less than significant levels.

The WQM discloses whether project-induced effects would have a significant impact on water quality. Significance is based on whether discharges to receiving waters would cause exceedances of federal, State of California or Tahoe Regional Planning Agency (TRPA) water quality objectives or have an adverse impact to the beneficial uses identified by the Regional Water Quality Control Board (RWQCB).

This report describes the environmental and regulatory setting and the environmental impacts of the Project and identifies measures to minimize adverse impacts on hydrology and water quality.

The Water Erosion Prediction Project (WEPP) model was not applied to project components located adjacent to Dollar Creek to determine the magnitude and significance of direct, indirect, and cumulative effects to soil erosion from proposed activities because of the minimal ground disturbance proposed at the Creek crossing. Based on WEPP model results from the South Tahoe Greenway Shared-use Trail Project in South Lake Tahoe, California, proposed construction activities and long-term operations and maintenance of the Dollar Creek Shared-use Trail Project would be hydrologically disconnected through site-specific project design (i.e., use of a bridge span) and conformance to federal, regional, state and local regulatory requirements throughout the construction and post-construction period; thus avoiding significant direct, indirect, and cumulative effects from soil erosion and sediment delivery to the Creek.

1.2 Project Location and Description

The Project is located in the northern Lake Tahoe Basin in Placer County. The shared-use trail alignment extends the existing Dollar Hill Bike Trail from the current terminus at the intersection of State Route (SR) 28 and Dollar Drive an additional 2.5 miles around the residential neighborhoods to a terminus at Fulton Crescent Drive close to the United States Department of Agriculture (USDA) Lake Tahoe Basin Management Unit's (LTBMU) property boundary.

The Project establishes a Class 1 or better shared-use trail (i.e., a 10 to 12-feet wide, separated trail) and provides for an extension of the Tahoe City bicycle trail network, linking residential and

recreation uses to jobs, schools, shopping, lodging, and recreation and community areas. Figure 1 illustrates the general Project alignment and Project location. The shared-use trail would travel through public lands commonly known as the Dollar and Firestone properties. The Project enhances recreational and transportation opportunities by extending the existing paved trail network in the Tahoe City area, including TCPUD's 10-mile Class 1 trail from Tahoe City to Sugar Pine Point State Park and the 3.7 mile trail along the Truckee River to Squaw Valley.

The Project represents a smaller portion of the long-studied, over eight-mile North Tahoe Bike Trail proposed to fill in one of the last critical trail gaps on the north shore to connect existing trails in Dollar Hill and Tahoe Vista. When this greater trail connection and other current trail efforts are completed, the overall shared-use trail system will allow riders to travel from SR 267 in Kings Beach, west to Squaw Valley and south to Sugar Pine Point State Park, creating more than 30 miles of Class 1trail network.

The project area generally follows the existing informal trails located on Conservancy and NTPUD-owned parcels and encompassing other public parcels nearby as needed to improve the connection or reduce or avoid environmental effects. The Project complements the Conservancy-funded Tahoe City "Wye" Recreational Access Project, which provides bike trail parking at the junction of these trails in Tahoe City. Construction of the Project will also be a significant step toward completion of the Tahoe Regional Planning Agency (TRPA) Lake Tahoe Regional Bicycle and Pedestrian Master Plan (Tahoe Metropolitan Planning Organization 2010).

The Project implements specific goals and policies of the TRPA to provide a non-motorized alternative transportation corridor through north Lake Tahoe and is consistent with the County's outdoor recreation program requirements. The Project is included in the TRPA Environmental Improvement Program (EIP) as project 761 (Dollar Hill to North Tahoe Regional Park). Trail development details comply with the American Association of State Highway and Transportation Officials (AASHTO) guidelines and American Disability Act (ADA) design standards and include informal trail consolidation or decommissioning and disturbed land restoration along its length.

Sections of asphalt concrete trail on grade, asphalt concrete trail on permeable fill/vented trail, and a bridge span over Dollar Creek comprise the shared-use trail. The Project may also construct trailhead parking and an access road off of State Route 28 at Dollar Drive. Asphalt concrete trail on grade and on permeable fill are 10 feet wide with an additional two (2) feet of clear zone on each side of the trail. The bridge section is 12 to 14 feet wide with sections that exceed heights of 30 inches above grade constructed with rails.

Disturbance from construction is estimated at 6.4 acres, with 4.9 acres remaining as permanent land coverage associated with the 2.2 mile shared use trail, trailhead parking and access road, and existing foot trails within the project area. The approximately 1.5 acres of temporary disturbance associated with temporary construction roads, staging areas, and hammerhead turnarounds and cut and fill slopes will be revegetated and restored and maintained post-construction.

2.0 Affected Environment

2.1 Existing Water Resources

2.1.1 Project Area

Figure 1 depicts the extent of the project area and proposed location of the shared-use trail in context to Dollar Creek and Lake Tahoe, the potential receiving waters. The project area includes TRPA-zoned recreation and conservation lands, with a small portion located adjacent to the Dollar Hill commercial/public service plan area at the proposed SR 28 crossing location.

The background water quality and availability of water resources in an area depends upon several factors, including topography, geology, soils, surface and groundwater hydrology, land use, climate, and precipitation. The following is a brief description of these general characteristics in the project area and surroundings.

2.1.2 Regional and Local Climate and Precipitation

The Lake Tahoe Basin comprises a bowl-shaped watershed, characterized by steep, north/south trending mountain ranges to the east and west, with Lake Tahoe occupying nearly 40 percent of the watershed. Within the basin, 63 individual watersheds contribute their flow to Lake Tahoe. The climate consists of long, relatively mild winters with short, dry summers. Most of the area's precipitation comes in the form of snow, with occasional thunderstorms during the summer months. Precipitation that falls from June through September accounts for less than 20 percent of the annual total. The western portions of the basin receive between 35 and 90 inches of precipitation per year (in/yr), while the eastern portions receive between 20 and 40 in/yr (USGS 2002). The higher amounts of precipitation typically occur in the upper elevations. Monthly average precipitation for the project area based on WETS data from the Tahoe City Station with normal range of precipitation, defined as the 30% chance that precipitation will be either greater than or less than the average values, was 37.0 inches for the SNOTEL 30 year period of record (http://www.wcc.nrcs.usda.gov/snow/30yrprec.html).

Natural drainage systems surrounding Lake Tahoe convey surface and subsurface runoff from rain and melting snow that slowly erodes the land. Sediment, dissolved minerals, organic litter, and nutrients are transported through the drainage courses and stream environment zones (SEZ) to the lake. Delta marshes of tributary streams filter these sediments and nutrients, which are taken up during plant growth. Organic materials are decomposed in the oxygen-rich lake and stream waters and nutrients are used by aquatic biota. Water quality in Lake Tahoe and its tributaries can be adversely affected by runoff from surrounding lands. Suspended sediment can cause turbidity and result in sedimentation, and suspended and dissolved nutrients can stimulate algal growth, depleting the lake of oxygen in the natural process of eutrophication (i.e., increasing biologic material and depletion of oxygen over time). Today significant portions of the Lake Tahoe Basin are urbanized. Many factors such as land disturbance, habitat destruction, air pollution, soil erosion, and roads can interact to degrade surface water quality (Murphy and Knopp 2000).

Robert Coats recently published *Climate change in the Tahoe Basin: regional trends, impacts and drivers* (2010), a study that quantified decadal-scale time trends in air temperature, precipitation phase and intensity, spring snowmelt timing, and lake temperature in the Lake Tahoe Basin. The results indicate strong upward trends in air temperature, a shift from snow to rain precipitation regime, a shift in snowmelt timing to earlier dates, increased rainfall intensity, increased interannual variability and continued increases in temperature of Lake Tahoe. The study concludes that continued warming in the Lake Tahoe Basin has important implications for efforts to manage biodiversity and maintain clarity of the lake.

2.1.3 Watershed, Surface Water and Floodplain Features

The Lake Tahoe Basin is 506 square miles (mi^2). The surface area of the Lake is 192 mi^2, and the watershed area is 314 mi^2. Most of the land in the basin is mountainous, limiting development mainly to relatively flat- lying areas along tributary streams. About 78% of the basin is at altitudes from 6,500 feet to greater than 10,000 feet mean sea level (msl). This altitude range, combined with other factors such as prevailing storm systems from the Pacific Ocean, causes an unequal distribution of precipitation throughout the basin. More than 80 inches per year (in/yr) of precipitation, mostly as snow, falls on the western side of the basin, whereas about 30 in/yr falls on the eastern side (USGS 1997).

The project area is located on the northern slope of the Lake Tahoe Basin in Placer County, California extending from the intersection of Dollar Drive and State Route (SR) 28 to Fulton Crescent Drive accessed by Old County Road.

As illustrated in Figure 1, the project area traverses the Lake Forest Creek, Dollar Creek and Cedar Flats watersheds. As enumerated in Table 1, The project area affects 0.11 acres within Lake Forest Creek watershed (TRPA Priority Watershed 4) or 0.03% of the watershed's 447 acres. The shared-use trail is not hydrologically connected to Lake Forest Creek. Dollar Creek, a perennial stream channel and TRPA Priority Watershed 5, drains the project area. Dollar Creek watershed drains an area of approximately 1,175 acres with approximately 217 acres of 18.5% of the total watershed contained within the project area. The project area also contains approximately 41 acres of the 1,166 acre Cedar Flats drainage area, which is 3.5% of the total area. Cedar Flats, TRPA Priority Watershed 6, is not drained by a perennial channel.

Figure 1 illustrates the watershed and the project area boundaries as delineated by the Tahoe Regional Planning Agency (TRPA) and defined for the Lake Tahoe Total Maximum Daily Load (TMDL) (Lahontan and NDEP 2010). The project area is not hydrologically connected to Lake Forest Creek or Cedar Flats watershed through perennial drainage channels. Surface runoff within the project area typically sheet flows and infiltrates within the undeveloped forested uplands, although some intermittent and ephemeral drainages were noted during field surveys. The Project proposes culverts at these locations to minimize effects to existing surface drainage.

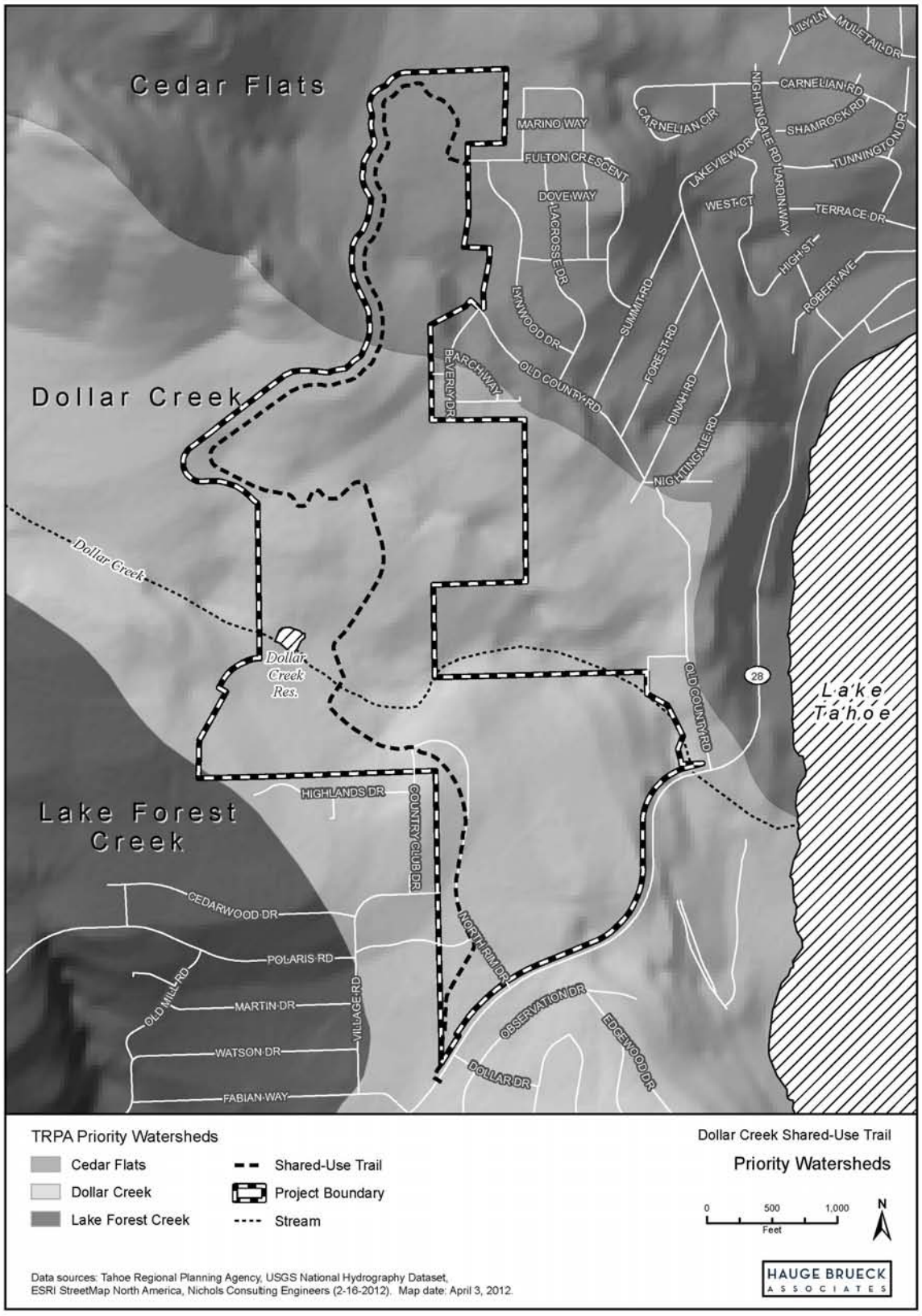
Table 1

Project Area Watersheds

TRPA Priority Number	Watershed Name	Watershed Acreage (GIS)	Watershed Acreage within Project Boundary	% Total Watershed within Project Boundary
6	Cedar Flats	1,166.36	40.79	3.50%
5	Dollar Creek	1,174.99	216.83	18.45%
4	Lake Forest	447.15	0.11	0.03%

Source: HBA 2011, TRPA GIS data

Figure 1. Project Area Watersheds, Hydrography and Flood Zones



2.1.4 Groundwater

The Tahoe Valley Groundwater Basin contains the project area and is located within the larger structural feature commonly referred to as the Lake Tahoe Basin. The basin is surrounded by the mountain peaks of the Sierra Nevada to the west and the Carson Range to the east. The groundwater basin consists of three alluvial areas surrounding the California side of the lake on the south, west, and north. The Tahoe Valley West Subbasin of the Tahoe Valley Groundwater Basin occupies an elongated, approximately 10 mile long structural basin, in which basin-fill deposits have accumulated (Thodal 1997). The subbasin is bounded on the east by the western shore of Lake Tahoe, and on the west by the Sierra Nevada, with an approximate north-south boundary that lies about 1⁄2 mile west of Dollar Point and two miles west of Meeks Bay. Elevations within the subbasin range from 6,225 feet at lake level rising to above 6,400 feet in the west.

The principal source of groundwater in the Tahoe Valley West subbasin is from Tertiary and Quaternary age glacial, fluvial, and lacustrine sediments, collectively referred to as basin-fill deposits (Burnett 1971). While Thodal (1997) could not identify specific-yield estimates for deposits in the subbasin from a review of previous studies, the range for similar deposits in the Tahoe Valley subbasin range from 6 % to 20% and average about 10%.

Groundwater recharge is primarily from infiltration of precipitation into faults and fractures in bedrock, into the soil and decomposed granite that overlies much of the bedrock, and into unconsolidated basin-fill deposits. Groundwater recharges over the entire extent of the flow path, except where the land surface in impermeable or where the groundwater table coincides with land surface. Stream flow also recharges groundwater when the water table is lower than the water surface of the stream (Thodal 1997).

NTPUD reports that in 2010 78 acre-feet/year were pumped from the Tahoe City/Westshore aquifer and that this pumping represented 6 % of the total water supply (NTPUD 2011).

2.1.5 Public Water Supply

The North Tahoe Public Utility District (NTPUD) supplies municipal water to the project area. The NTPUD services nearly 3,873 connections. These connections include single-family dwellings and business establishments, as well as separate irrigation and fire systems. The District operates three separate and independent water systems: Dollar Cove, Carnelian Bay, and the Tahoe Main system, comprised of Tahoe Vista, Kings Beach, and Brockway to the Nevada State Line. Dollar Cove is currently being supplied through the Tahoe City Public Utility District's Tahoe City system, which is comprised of five separate wells (groundwater sources). Carnelian Bay draws its water from a single well (groundwater source). The Tahoe main water system draws water from Lake Tahoe (surface water source) through an intake at the end of National Avenue in Tahoe Vista, as well as a single well (groundwater source) located in the North Tahoe Regional Park at the top of Donner Road. These combined sources supplied just under 484 million gallons of water to customers in 2010 (http://www.ntpud.org; accessed February 1, 2012).

The Dollar Cove system serves the community of Dollar Cove with water purchased from the Tahoe City Public Utility District (TCPUD) (PWSID number 31-10036). With a contract for

supply, including the jointly developed well and other TCPUD sources, NTPUD has a reliable source capacity.

The Project does not involve the use of public water supply beyond water applies during construction for dust suppression activities and irrigation for revegetation of disturbed areas.

2.1.5 TRPA Source Waters

Per review of TRPA Source Water Maps available at the TRPA front counter (February 15, 2012), TRPA source waters in the project area vicinity include numbers: 09204002W1, 09208407W11, 09347001111, 09316029W22, 09316029W12, and 0930943011. The project area contains no mapped source waters or fall within the 600-foot source water protection zone.

The Project proposal includes no contaminating activities and poses no direct or indirect effects to TRPA source waters.

2.2 Existing Water Quality

2.2.1 Surface Water

Dollar Creek and Dollar Reservoir are the perennial surface water features and direct receiving waters within the project area. Intermittent and ephemeral drainages are present within the project area that convey surface runoff during the spring runoff period and extreme precipitation events, but these drainages do not discharge to receiving waters or to Lake Tahoe. Lake Tahoe is an indirect receiving water via stream flows from Dollar Creek and groundwater recharge from lacustrine deposits. Dollar Reservoir is about one acre in size and is sited behind a 14-foot high and 400-foot long dam. The dam and reservoir do not currently serve any purpose other than providing a favorite destination for hikers and bikers (California State Parks 2005).

Artificial barriers exist on Dollar Creek near the confluence with Lake Tahoe. Consequently there is no interchange of fish and other migratory aquatic species between the lake and the creeks (California State Parks 2005).

Little surface water quality data exists for Dollar Creek, but non-point sources of stormwater runoff from residential developments, including lawns and landscaping, driveways and access roadways along with runoff from forested uplands are known to be the primary influences on surface water quality (TRPA and NDEP 2007).

No portion of Dollar Creek is currently designated as impaired under Section 303(d) of the CWA; however, the stream is tributary to Lake Tahoe and addressed under the Lake Tahoe TMDL. The creek does not appear to be contaminated with heavy metals or other pollutants. Contaminants affecting the Dollar Creek watershed could include various vehicle-related pollutants such as oil, grease and other petroleum products from roadways, located down gradient of the project area and illicit dumping, pesticides, herbicides and fertilizers from residential homes in the project area vicinity. Wastewater treatment facilities do not contribute pollutants to the watershed because all sewer and wastewater are exported out of the Lake Tahoe Basin.

The discharge of surface flows generated within the project area to surface waters or to stormwater runoff conveyance systems cannot cause the concentrations in Lake Tahoe, Dollar Creek, minor surface waters or minor wetlands to exceed the WQO limits listed in Tables 2 and 3 below.

2.2.2 Groundwater

In general, the inorganic quality of groundwater in the Lake Tahoe Basin is excellent (Thodal 1997). Groundwater quality in the project area portion of the Tahoe City/West Shore aquifer is considered excellent, as based on NTPUD and TCPUD monitoring data for the project area vicinity (NTPUD 2011). Public water systems must still be treated according to regulations set forth by the USEPA and the California Department of Public Health, Division of Drinking Water and Environmental Management. Water quality analysis sampling results for 2010 are referenced to:

- http://www.ntpud.org/docs/conservation/NTPUD_2010%20Annual%20Water%20Quality%20Rpt.pdf

- Draft 2010 Urban Water Management Plan (NTPUD 2011).

Groundwater quantity and water table levels are not well defined for the project area. Groundwater recharge in the Tahoe Basin is primarily from infiltration of snow and precipitation into the soil, faults and fractures in bedrock, and decomposed granite that overlies much of the bedrock, and into unconsolidated basin-fill deposits. Groundwater is recharged over the entire extent of the flow path, except where the land surface is impermeable or where the groundwater table coincides with land surface. Stream flow also recharges groundwater when the water table altitude is lower than the water surface altitude of the stream (Thodal 1997). Overall, changes in groundwater storage for the NTPUD managed basin have been minimal. Decreases in groundwater storage have resulted in areas of pumping. Increases in storage have resulted in areas where storm runoff is temporarily ponded in small basins (. The groundwater in the NTPUD service area basin is not adjudicated; therefore there are no pumping limitations.

2.2.3 Erosion and Sedimentation

The Burton Creek State Park General Plan Final Environmental Impact Report (EIR) (California State Parks 2005) includes assessment of the "Dollar Parcel" (i.e., a 900 acre undeveloped parcel of land adjacent to the Burton Creek State Park that was owned and managed by the Conservancy since 1990). The EIR noted that the Dollar Parcel, which includes portions of the project area, is not gated and receives considerable unregulated public use from adjacent subdivisions. The numerous native surface roads and trails contribute to erosion from the property (California State Parks 2005).

Bank erosion is not observed along Dollar Creek within the project area. Stream flows are controlled by the dam at Dollar Reservoir just a few hundred feet upstream. The banks are stabilized by riparian vegetation that is well-established along the narrow SEZ corridor.

Within the project area surface runoff can be categorized as sheet flow and intermittent rilling. Surface runoff, also termed overland flow, was observed during field surveys along portions of native surface trails and on the steeper slope areas of undeveloped forested uplands. This surface runoff initiates the process of erosion. Continuous rilling and extensive gully erosion was not observed within the project area. Sedimentation was observed to occur at slope breaks but not in correction to receiving waters.

The League to Save Lake Tahoe and Sierra Pacific Power (now NV Energy) engaged the north shore community to implement a road decommissioning project in 2000 in the northern project area. Presently an approximately 1,000-foot section of trail connects the proposed shared-use trail

alignment to Old County Road. The project was implemented to reduce erosion caused by road capture and conveyance of overland flows during spring runoff. The project alleviated some erosion impacts but during field surveys some sections of the user created trail were noted to still capture and convey overland flow and contribute to gully erosion.

2.3 Application Regulations, Plans and Policies

Key regulatory agencies with respect to hydrology, water rights and supply, surface water quality and groundwater in the Project area are listed below.

- TRPA is designated by the United States Environmental Protection Agency (USEPA), California and Nevada as the water quality planning agency in the region;
- California Department of Water Resources;
- State Water Resources Control Board (State Board);
- California Regional Water Quality Control Board – Lahontan Region;
- Placer County; and
- Placer County flood control and Water conservation District.

2.3.1 Federal

United States Environmental Protection Agency (USEPA)

The Clean Water Act (CWA) of 1972 is the primary federal law governing water quality. The act provides for the restoration and maintenance of the chemical, physical and biological integrity of the nation's waters, emphasizes technology-based control strategies and requires discharge permits to use public resources for wastewater. The CWA limits the amount of pollutants that may be discharged and requires wastewater to be treated with the best treatment technology economically achievable regardless of receiving water conditions.

The 1987 CWA amendments included Section 402(p), which establishes a framework for regulating municipal and industrial stormwater discharges. The amendments also provided a framework for regulating stormwater runoff from construction sites. The USEPA published final regulations on November 16, 1990 that establish requirements for stormwater permits.

CWA Section 303(d) was amended to the act to require States to identify and maintain a list of waterbodies that do not meet water quality objectives and to implement a Total Maximum Daily Load (TMDL) program for such impaired waterbodies.

United States Army Corps of Engineers (USACE)

Section 404 of the CWA established a permit program to regulate the discharge of dredged material into waters of the U.S. The program's scope also includes the regulation of discharges of dredge or fill material into wetlands adjacent to national waters. The permit program is administered by the Secretary of the Army through the U.S. Army Corps of Engineers (USACE). Since the project will involve the filling or dredging of waters of the U.S., a CWA Section 404 Permit will be required.

Federal Emergency Management Agency (FEMA)

FEMA is part of the Department of Homeland Security and is tasked with responding to, planning for, recovering from and mitigating against disasters. Formed in 1979 to merge many of the separate disaster-related responsibilities of the federal government into one agency, FEMA is responsible for coordinating the federal response to floods, earthquakes, hurricanes, and other natural or man-made disasters and providing disaster assistance to states, communities and individuals. The Federal Insurance and Mitigation Administration (FIMA) within FEMA is responsible for administering the National Flood Insurance Program (NFIP) and administering programs that provide assistance for mitigating future damages from natural hazards. Established in 1968 with the passage of the National Flood Insurance Act, the NFIP is a federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the federal government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the federal government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods.

Placer County participates in the National Flood Insurance Program (NFIP) by adopting and enforcing floodplain management ordinances to reduce future flood damage. Placer County Ordinance Article 15.52 - Flood Damage Prevention Regulations addresses floodplain management.

2.3.2 TRPA

The TRPA is the designated area-wide water quality planning agency under Section 208 of the Clean Water Act (CWA).

Surface Water

In 1988 the States of California and Nevada and the USEPA adopted the TRPA Water Quality Management Plan for the Lake Tahoe Basin (TRPA 1988), commonly referred to as the 208 Plan. The 208 Plan identifies water quality problems, proposes solutions or mitigation measures, identifies those entities responsible for implementing solutions, and determines agencies or jurisdictions responsible for enforcement. The TRPA Environmental Thresholds (Resolution 82-11 adopted in 1982) and State of California water quality objectives (WQO) establish over 30 separate water quality standards for Lake Tahoe and its tributaries. The standards address algal growth potential, plankton count, clarity, turbidity, phytoplankton productivity, phytoplankton biomass, zooplankton biomass, periphyton biomass, dissolved inorganic nitrogen (DIN) loading, nutrient loading in general, tributary water quality, surface runoff quality, and the quality of other lakes in the Lake Tahoe Basin.

TRPA water quality thresholds are as follows:

- WQ1—Decrease sediment load as required to attain turbidity values not to exceed three NTU in littoral Lake Tahoe. In addition, turbidity shall not exceed one NTU in shallow waters of Lake Tahoe not directly influenced by stream discharges.

- WQ2—Average Secchi depth, December–March, shall not be less than 33.4 meters.

- WQ3—Annual mean phytoplankton primary productivity shall not exceed 52 grams of carbon content per meter squared per year (gC/m2/yr). California: algal productivity shall not be increased beyond levels recorded in 1967–1971, based on a statistical comparison of seasonal and annual mean values.

- WQ4—Attain a 90th percentile value for suspended sediment of 60mg/L, total nitrogen range of 0.15 to 0.23 mg/L, total phosphorus range of 0.005 to 0.030 mg/L, and total iron range of 0.01 to 0.07 mg/L (annual average).

- WQ5—Dissolved inorganic nitrogen, 0.5 mg/L; dissolved phosphorus, 0.1 mg/L; dissolved iron, 0.5 mg/L; suspended sediment, 250 mg/L, grease and oil 2.0 mg/L, total phosphate as P, 0.1 mg/L, and turbidity, 20 NTU.

- WQ6—Surface water infiltration into the groundwater shall comply with the Uniform Regional Run Off guidelines. For total nitrogen, 5 mg/L; total phosphorus, 1 mg/L; total iron, four mg/L; turbidity, 200 NTU; and grease and oil, 40 mg/L.

- WQ7—Attain existing water quality standards.

Regional water quality standards are outlined in the TRPA Code of Ordinances, Revised Code Chapter 60. The chapter sets forth standards for the discharge of runoff water from parcels, and regulates the discharge of domestic, municipal, or industrial wastewaters. The standards and prohibitions apply to discharges to both surface and groundwaters. Revised Code Chapter 60 addresses water quality mitigation for projects and activities that result in the creation of additional impervious coverage.

Pollutant concentrations in surface runoff shall not exceed the values as stated in Table 2 at the 90th percentile. Surface runoff that is directed to infiltrate into the soil shall not exceed the discharges to groundwater standards. Stormwater running on to the Project area or stormwater generated on the Project area must be captured, conveyed and treated to these surface and ground water standards or spread and infiltrated on the Project area to receiving soils and spreading areas with suitable assimilative capacities.

TRPA is presently updating the Regional Plan, a draft of which is expected for release for public review in 2012. Integration of research, conducted as part of the water quality restoration plan being undertaken by Lahontan and NDEP, is a critical element of the Regional Plan Update. The research for the TMDL analysis for Lake Tahoe shows that emphasis on load reduction strategies for fine sediments entering the lake from urban areas is necessary. Another key component to the Regional Plan Update is the incorporation of the TMDL requirements and proposed implementation strategies and control measures contained in the TMDL technical analysis. The TMDL recommended implementation strategies or pollution reduction opportunities call for the deployment of new and more advanced water treatment technologies including: area-wide stormwater treatment systems; vacuum sweeping of roads; wetland and passive filtration basins; placing media filters in stormwater vaults; improving BMP compliance; and intensifying maintenance of stormwater infrastructure. With the Regional Plan Update, TRPA may begin to focus on load reduction rather than site design standards and infiltration only.

Table 2

TRPA Surface Water Discharge Limits

Parameter	Unit	Surface Runoff Limits	
		Discharge to Surface Water	Discharges to Groundwater
Turbidity	NTU	--	200
Suspended Sediment Concentration*	mg/L	250	--
Oil and Grease	mg/L	2	40
Dissolved Inorganic Nitrogen (NO2+NO3+NH3)	mg/L	0.5	--
Total Nitrogen	mg/L	--	5
Dissolved Phosphorus	mg/L	0.1	--
Total Phosphorus	mg/L	--	1
Dissolved Iron	mg/L	0.5	--
Total Iron	mg/L	--	4

Source: TRPA Code or Ordinances Chapter 81

Note: *Suspended Sediment Concentration (SSC) is the TRPA discharge standard listed in Chapter 81. Many stormwater monitoring programs measure Total Suspended Solids/Sediment or TSS, an arguably cheaper and more appropriate parameter for stormwater runoff measurement.

Grading Standards

There are grading standards set forth in Revised Chapters 30 and 33, specifically Section 33.3 Grading Standards, of the TRPA Code of Ordinances. Limitations include no excavation, filling, or clearing of vegetation or other disturbance of the soil between October 15 and May 1 of each year, unless approval is granted by TRPA. Grading and construction schedules are established in Revised Code Chapter 33 of the Code of Ordinances. A grading plan is required by TRPA prior to project approval and project construction.

Stream Environment Zones

TRPA defines a SEZ as a biological community that derives its characteristics from the presence of surface water or a seasonal high groundwater table. SEZs exhibit the ability to rapidly incorporate nutrients into the usually dense vegetation and moist to saturated soils. SEZs are riparian areas identified by the presence of at least one key indicator or three secondary indicators (TRPA Revised Code Section 53.9). No additional land coverage or other permanent land disturbance is permitted in SEZs unless specific findings can be made to permit the exception (TRPA Revised Code Section 30.5).

There are mapped and verified SEZs in the Project area.

Groundwater Regulations

According to the TRPA Revised Code Chapter 33, groundwater impacts are considered significant if implementation of the Project results in the interception or interference of groundwater by:

- Altering the direction of groundwater;
- Altering the rate of flow of groundwater;
- Intercepting groundwater;
- Adding or withdrawing groundwater; or
- Raising or lowering the water table.

TRPA Revised Code Section 33.3.6 prohibits excavations in excess of five feet in depth or where there exists a reasonable possibility of interference of interception of a water table unless the following findings can be made:

> (1) A soils/hydrologic report prepared by a qualified professional, whose proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of groundwater will occur as a result of the excavation; and
>
> (2) The excavation is designed such that no damage occurs to mature trees, except where tree removal is allowed pursuant to revised Code Subsection 33.6.5: Tree Removal, including root systems, and hydrologic conditions of the soil. To ensure the protection of vegetation necessary for screening, a special vegetation protection report shall be prepared by a qualified professional identifying measures necessary to ensure damage will not occur as a result of the excavation; and
>
> (3) Excavated material is disposed of pursuant to Revised Code Section 33.3.4, Disposal of Materials, and the project area's natural topography is maintained pursuant to Subparagraph 36.5.1.A; or if groundwater interception or interference will occur as described in the soils/hydrologic report, the excavation can be made as an exception pursuant to Subparagraph 33.3.6.A.2 and measures are included in the project to maintain groundwater flows to avoid adverse impacts to SEZ vegetation, if any would be affected, and to prevent any groundwater or subsurface flow from leaving the project area as surface flow.

Source Water Protection

TRPA Revised Code Chapter 60, Section 60.3 sets forth regulations pertaining to recognition of source water, prevention of contamination to source water and protection of public health relating to drinking water. Source water is defined as water drawn to supply drinking water from an aquifer, or a well or from a surface water body by an intake, regardless of whether such water is treated before distribution.

2.3.3 State of California

Placer County serves as the lead agency under the California Environmental Quality Act (CEQA) with the Conservancy and NTPUD participating as responsible agencies.

The primary responsibility for the protection of surface water and groundwater quality in

California rests with the State Water Resources Control Board (State Board) and nine Regional Water Quality Control Boards (RWQCBs).

The California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) of 1970 establishes a requirement for state agencies to analyze and disclose the potential environmental effects of a proposed action. The Initial Study (IS) prepared by state and local governments is usually a free-standing document intended to meet the requirements of CEQA.

If the County finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the County must prepare an EIR. If the County finds no substantial evidence that the Project or any of its aspects may cause a significant effect on the environment, a Negative Declaration (Neg Dec) shall be prepared. If in the course of analysis, the County recognizes that the Project may have a significant impact on the environment, but that by incorporating specific mitigation measures the impact will be reduced to a less than significant effect, a Mitigated Neg Dec shall be prepared.

The IS also provides sufficient information for Responsible and Trustee agencies to use as the basis for CEQA compliance, including the Regional Water Quality Control Board – Lahontan Region (Lahontan) and the California Department of Fish and Game (CDFG). The IS is not, in and of itself, a decision document. The document's purpose is to evaluate the environmental consequences of implementing the Project and to identify measures if necessary to avoid significant impacts.

State Water Resources Control Board (State Board)

The State Board administers State and federal regulations that pertain to water quality including Sections 401 and 402 of the federal Clean Water Act.

National Pollutant Discharge Elimination System (NPDES) – General Construction

The State Board regulates construction activities resulting in the disturbance of one or more acres of soils through the California General Permit for Storm Water Discharges Associated with Federal Clean Water Act Section 402 Construction Activities and Land Disturbance Activities (Order No. 2009-009DWQ). This permit does not cover disturbance to lands classified as SEZ and does not cover construction activities within the Lake Tahoe Hydrologic Unit. The State Board defers to Lahontan Board Order No. R6T-2011-0019 for construction activities within the Lake Tahoe Hydrologic Unit.

Low Impact Development – Sustainable Stormwater Management

On January 20, 2005, the State Board adopted sustainability as a core value for all California Water Boards' activities and programs, and directed RQWCB staff to consider sustainability in all future policies, guidelines, and regulatory actions.

Low Impact Development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID takes a different approach by using site design and storm

water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management. The RWQCBs are advancing LID in California in various ways.

LID provides economical as well as environmental benefits. LID practices result in less disturbance of the development area, conservation of natural features, and less expensive than traditional storm water controls. The cost savings applies not only to construction costs, but also to long-term maintenance and life cycle cost. LID provides multiple opportunities to retrofit existing highly urbanized areas and can be applied to a range of lot sizes.

LID includes specific techniques, tools, and materials to control the amount of impervious surface, increase infiltration, improve water quality by reducing runoff from developed sites, and reduce costly infrastructure. LID practices include; bioretention facilities or rain gardens, sidewalk storage, grass swales and channels, vegetated rooftops, rain barrels and cisterns, vegetated filter strips, swales and buffers, tree preservation, roof leader disconnection, and permeable pavements and pavers, impervious surface reductions and disconnection, soil amendments, pollution prevention and good housekeeping (http://waterbaords.ca.gov/water_issues/programs/low_impact_development).

Regional Water Quality Control Board - Lahontan Region (Lahontan)

Lahontan is one of the nine RWQCBs in California. The nine RWQCBs maintain Basin Plans that include comprehensive lists of water bodies in each area, as well as detailed language about the components of applicable WQOs. As authorized by the USEPA, the State Board and nine RWQCBs implement the Section 402 Clean Water Act NPDES Permitting Program and requirements in California. Clean Water Act Section 401 requirements generally relate to State certification of federal permits, including those issued by a federal agency under Clean Water Act Section 404. In addition, the Lahontan regulates waste discharges under the California Water Code, Article 4 (Waste Discharge Requirements) and Chapter 5.5 (Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972).

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's comprehensive water quality control law and functions as a complete regulatory program designed to protect water quality and beneficial uses of the State's water. Under this act, the State Water Resources Control Board (State Board) provides policy guidance and review for the Regional Water Quality Control Boards (RWQCBs), and the RWQCBs implement and enforce the provisions of the Act. The act requires the adoption of water quality control plans by the state's nine RWQCBs for areas within their regions. These plans are subject to the approval of the SWRCB and ultimately the USEPA. The plans are to be continually reviewed and updated. Basin Plans establish specific water quality objectives for individual bodies of water. The Basin Plans are master planning documents intended to guide efforts to maintain and restore the quality of California's waters.

For the area in which the project would be sited, the applicable RWQCB is Lahontan. The Porter-Cologne Act, the State Board and Lahontan have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-

Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Each RWQCB must formulate and adopt a water quality control plan for its region. The regional plans must conform to the policies set forth in the Porter-Cologne Act and established by the State Board in its state water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Regional Water Quality Control Board's Basin Plan for the Lahontan Region

Lahontan implements the *California Regional Water Quality Control Board's Basin Plan for the Lahontan Region* or Basin Plan, which recognizes natural water quality, existing and potential beneficial uses, and water quality problems associated with human activities in Placer County (Lahontan 1995). Lahontan also has regulatory authority to enforce the requirements of the Clean Water Act and the California Water Code. This includes the regulatory authority to enforce the implementation of TMDLs, the adoption of waste discharge requirements (WDRs) to ensure compliance with surface WQOs, and groundwater management.

Specifically the Basin Plan outlines the narrative and numeric WQOs for water bodies within the Lake Tahoe Hydrologic Unit. Some water bodies have specific WQOs. In the project area, Dollar Creek has numeric WQOs for Total Dissolved Solids, Chloride, Total Nitrogen, Total Phosphorus, and Iron.

In addition to the WQO in the Basin Plan, federal water quality standards for certain toxic pollutants apply to surface waters within California, including the Lahontan Region. These standards are contained in the National Toxics Rule (40 CFR 131.36) and the California Toxics Rule (40 CFR 131.37). State Board has adopted a statewide implementation policy for the federal toxics standards, including summary tables listing the standards themselves. The federal standards have not yet been physically incorporated into the Basin Plan. The National Toxics Rule and California Toxics Rule standards differ from federal water quality criteria in that they are enforceable. Federal criteria are non-enforceable, science-based thresholds that can be used in development of enforceable state water quality standards.

Waste Discharge Requirements and Anti-Degradation Findings

Lahontan must consider antidegradation pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16 to find that the subject discharges are consistent with the provisions of these policies. Anti-degradation findings that consistent with the policies are necessary for reissuance of waste discharge requirements for operations and actions within the project area.

Placer County is the discharger and the receiving waters are the surface waters of the North Tahoe Hydrologic Area of the Lake Tahoe Hydrologic Unit (Department of Water Resources Hydrologic Unit No. 634.20), specifically Dollar Creek and Lake Tahoe. Dollar Creek beneficial uses include:

- municipal and domestic supply;
- agricultural supply;
- groundwater recharge,

- water-contact recreation;
- non-water-contact recreation;
- commercial and sportfishing;
- cold freshwater habitat;
- wildlife habitat; and
- spawning, reproduction and development.

The effluent limitations apply to surface flows generated within the project area, or as a result of the development on the project area, are discharged to land treatment systems and/or surface waters of Dollar Creek. These flows cannot contain constituents in excess of the concentrations listed in Table 3. The discharge of surface flows generated within the project area to surface waters or to stormwater runoff conveyance systems cannot cause the concentrations in Lake Tahoe, Dollar Creek, minor surface waters or minor wetlands to exceed the WQO limits listed in Table 3.

Surface flows generated within the project area that are discharged to groundwater or to land treatment systems cannot cause a violation of limits listed in Table 3 for land treatment or of the following WQOs for groundwaters of the Lake Tahoe Hydrologic Unit:

- Groundwaters cannot contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses;
- The median concentration of coliform organisms, in groundwaters, over any seven-day period shall be less than 2.2/100 ml; and
- Groundwaters shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels or secondary maximum contaminant levels based upon drinking water standards specified by the more restrictive of the California Code of Regulations, Title 22, Division 4, Chapter 15 or 40 CFR, Part 141.

Table 3

Lahontan Water Quality Objectives – Dollar Creek

Parameter	Unit	Effluent Limitations		Receiving Water Limitations**
		Surface Waters	Land Treatment	Dollar Creek
Turbidity	NTU	20	200	*
Total Dissolved Solids	mg/L	--	--	80
Oil and Grease	mg/L	2.0	40	--
Chloride	mg/L	--	--	0.30
Total Nitrogen	mg/L	0.5	5.0	0.16
Total Phosphorus	mg/L	0.1	1.0	0.030

Sulfate	mg/L	--	--	--
Boron	mg/L	--	--	--
Total Iron	mg/L	0.5	4.0	0.03

Source: Lahontan Board Order No. 6-95-86

Notes:

* Turbidity of waters shall not be raised more than 3 NTU. In no instance can an increase in turbidity exceed natural levels by more than 10 percent as determined by the mean of monthly means over a calendar year.

** Values are based on annual mean concentrations (arithmetic mean of 30-day averages over a calendar year)/90th percentile concentration (90 percent of data points are equal to or below value).

National Pollutant Discharge Elimination System – Lake Tahoe Basin

Lahontan Board Order R6T-2011-0019, entitled *Waste Discharge Requirements and National Pollutant Discharge Elimination System for Permit No. CAG616002 for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit*, applies to construction sites and activities resulting in the disturbance of one or more acres of soil disturbance in the Lake Tahoe Hydrologic Unit. Construction activities include clearing, grading, demolition, excavation, construction or new structures and reconstruction. This permit sets maximum concentration levels for discharges into surface waters for nutrients, sediment, turbidity, and grease and oil.

The permit requires submittal of a Notice of Intent (NOI) and that the construction contractor develop and implement a site-specific stormwater pollution prevention plan (SWPPP) to prevent stormwater and groundwater pollution caused by construction activities. At a minimum, implementation of the SWPPP must prevent debris, soil, silt, sand, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from construction or operation from entering into receiving waters, their tributaries and adjacent wetlands. The SWPPP outlines erosion control measures to be taken as well as BMPs to control and prevent to the maximum extent practicable the discharge of pollutants to surface waters and groundwater. Although the SWPPP focuses primarily on protection of surface waters, it also contains a plan for responding to and managing accidental spills during construction and a plan for management and storage of pumped groundwater. The SWPPP addresses overall management of the construction project site such as designating areas for material storage, equipment fueling, concrete washout, and stockpiles.

California Environmental Quality Act (CEQA)

Under CEQA, Lahontan is a responsible agency with regard to the Project. The California Water Code section 13050(e) reads as follows: "Waters of the State means any surface water or groundwater, including saline waters, within the boundaries of the state." State waters include irrigation canals and surface impoundments (other than those solely constructed for wastewater), wetlands, and waters of the United States (a subset of State waters). Lahontan's policies concerning wetland and riparian protection are stated in chapter four of the Basin Plan as outlined under sub-section Wetlands Protection and Management (pages 12-8 to 12-14).

Lake Tahoe Total Maximum Daily Load (TMDL)

Section 303(d) of the Clean Water Act requires States to compile a list of impaired water bodies that do not meet WQOs. The Clean Water Act also requires States to establish total maximum daily loads (TMDLs) for such waters. The deep water transparency standard for Lake Tahoe is the average annual Secchi depth measured between 1967 and 1971, an annual average Secchi

depth of 39.7 meters or 97.4 feet. The transparency standard for Lake Tahoe has not been met since its adoption. In 2007, the average annual average Secchi depth was 70 feet or 27.6 feet from the standard. Transparency loss is considered a water quality impairment from the input of nutrients and sediment. Consequently, Lake Tahoe is listed under Section 303(d) as impaired by inputs of nitrogen, phosphorus and sediment. The goal of the Lake Tahoe TMDL is to set forth a plan to restore Lake Tahoe's historic transparency to 97.4 feet.

The *Final Lake Tahoe Total Maximum Daily Load* report was released for public review and comment in June 2010. The report and the adoption and approval process are fully compliant with CEQA. The document states that the adoption of the Final Lake Tahoe TMDL will not have a significant adverse impact on the environment (Lahontan and NDEP 2007). The Lake Tahoe TMDL was adopted in August 2011 upon approvals of the United States Environmental Protection Agency (USEPA) and will be implemented by Lahontan.

California Tahoe Conservancy

The mission of the California Tahoe Conservancy (Conservancy) is to preserve, protect, restore, enhance and sustain the unique and significant natural resources and recreational opportunities of the Lake Tahoe Basin. The project area contains lands that are managed by the Conservancy, which participates as a responsible agency under CEQA.

2.3.4 Local

Placer County

Placer County published the *Placer County Stormwater Management Manual* in 1990 *(Placer County 1990)* and the *Land Development Manual* in 2006 (Placer County 2006). The Placer County Tahoe Basin Stormwater Management Plan describes the Placer County stormwater quality improvement program to be implemented in compliance with Phase I of Lahontan Board Order No. R6T-2005-0026 (NPDES Permit No. CAG616001). Placer County shares a permit with El Dorado County and the City of South Lake Tahoe for the Lake Tahoe Basin.

Placer County General Plan

The following Placer County General Plan (Placer County 1994) goals pertain to water supply and delivery, stormwater drainage, water resources, grading and erosion prevention, and flood hazards and protection. The supporting policies and implementation programs are referred to the appropriate General Plan sections.

Water Supply and Delivery

Goal 4.C: To ensure the availability of an adequate and safe water supply and the maintenance of high quality water in water bodies and aquifers used as sources of domestic supply.

Stormwater Drainage

Goal 4.E: To collect and dispose of stormwater in a manner that least inconveniences the public, reduces potential water-related damage, and enhances the environment.

Flood Protection

Goal 4.F: To protect the lives and property of the citizens of Placer County from hazards associated with development in floodplains and manage floodplains for their natural resource values.

Water Resources

Goal 6.A: To protect and enhance the natural qualities of Placer County's streams, creeks and groundwater.

Flood Hazards

Goal 8.B: To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards

Placer County Grading, Erosion, and Sediment Control Ordinance

The Placer County Board of Supervisors adopted the following relevant regulations pertaining to grading and related runoff in Placer County,

15.48.020 Purpose. The ordinance codified in this article is enacted for the purpose of regulating grading on property within the unincorporated area of Placer County to safeguard life, limb, health, property and public welfare; to avoid pollution of watercourses with hazardous materials, nutrients, sediments, or other earthen materials generated on or caused by surface runoff on or across the permit area; and to ensure that the intended use of a graded site is consistent with the Placer County general plan, any specific plans adopted thereto and applicable Placer County ordinances including the zoning ordinance, flood damage prevention ordinance, (Article 15.52) environmental review ordinance (Chapter 18 Placer County Code) and applicable chapters of the California Building Code. In the event of conflict between applicable chapters and this article, the most restrictive shall prevail. (Ord. 5056-B (part), 2000)

15.48.040 Grading. No person shall do or permit to be done any grading in such a manner that quantities of dirt, soil, rock, debris or other material substantially in excess of natural levels are washed, eroded or otherwise moved from the site, except as specifically provided for by a permit. In no event shall grading activities cause or contribute to the violation of provisions of any applicable NPDES stormwater discharge permit. (Ord. 5407-B § 2, 2006: Ord. 5056-B (part), 2000)

15.48.100 Construction in public rights-of-way. No person shall perform any grading work within the right-of-way of a public road or street, or within a public easement, without prior written approval of the agency director. (Ord. 5407-B § 6, 2006: Ord. 5056-B (part), 2000)

15.48.120 Tahoe Basin area special restrictions and exemptions.

A. Provisions of this section apply to the unincorporated area of Placer County within that area defined as “TRPA region” in the Tahoe Regional Planning Agency Compact. This area is the Tahoe Basin and that additional and adjacent part of the county of Placer outside of the Tahoe Basin in the state of California which lies southward and eastward of a line starting at the intersection of the basin crestline and the north boundary of Section 1, thence west to the northwest corner of Section 3, thence south to the intersection of the basin crestline and the

west boundary of Section 10; all sections referring to township 15 north, range 16 east, M.D.B. and M.

B. Grading and soil disturbance shall be prohibited during the period from October 15th through May 1st unless otherwise approved, in writing, by the agency director and by the Tahoe Regional Planning Agency and Lahontan Regional Water Quality Control Board. Complete winterization of the site is required by October 15th, if work is not complete and permanent revegetation is not established.

C. All work shall be in conformity with any grading restriction required by other federal, state, or local agencies.

D. A permit for grading on residential property issued by the Tahoe Regional Planning Agency will be evidence of conformity to provisions of this section. All other grading in the region, unless otherwise exempt as provided herein, is subject to review and approval by the community development resource agency.

E. Areas of the site not approved for grading, vegetation removal, or construction shall be fenced or otherwise marked to limit access. These fences shall be inspected, maintained, and repaired as necessary.

F. Prior to initiation of grading or construction-related activity, temporary erosion control measures shall be installed to prevent transport of earthen materials and other wastes off of the site.

G. All other provisions of this article shall apply, but a permit shall not be required if the work complies with all the following conditions:

1. The excavation does not exceed four feet in vertical depth at its deepest point measured from the original ground surface, does not exceed two hundred (200) square feet in area, and does not exceed three cubic yards per site;

2. The fill does not exceed three feet in vertical depth at its deepest point measured from the original ground surface, the fill material does not cover more than two hundred (200) square feet, and does not exceed three cubic yards per site;

3. The clearing of vegetation does not exceed one thousand (1,000) square feet in area. (Ord. 5407-B § 8, 2006: Ord. 5373-B (part), 2005; Ord. 5056-B (part), 2000) No person shall do or permit to be done any grading which may obstruct, impede or interfere with the natural flow of stormwaters, in such manner as to cause flooding where it would not otherwise occur, aggravate any existing flooding condition or cause accelerated erosion. This section applies whether such waters are unconfined upon the surface of the land or confined within land depressions or natural drainage ways, unimproved channels or watercourses, or improved ditches, channels or conduits. (Ord. 5056-B (part), 2000)

15.48.570 Drainage—General. Any drainage structure(s) or device(s) carrying surface water runoff required by this article shall be designed and constructed in accordance with standards herein, the current Placer County flood control and water conservation district stormwater management manual and criteria authorized by the agency director. (Ord. 5407-B § 16, 2006: Ord. 5056-B (part), 2000)

15.48.580 Drainage discharge requirements. All drainage facilities shall be designed and engineered to carry surface and subsurface waters to the nearest adequate street, storm drain, natural watercourse, or other juncture. (Ord. 5373-B (part), 2005; Ord. 5056-B (part), 2000)

15.48.590 Drainage—Water accumulation. All areas shall be graded and drained so that drainage will not cause erosion or endanger the stability of any cut or fill slope or any building or structure. (Ord. 5056-B (part), 2000)

15.48.600 Drainage protection of adjoining property. When surface drainage is discharged onto any adjoining property, it shall be discharged in such a manner that it will not cause erosion or endanger any cut or fill slope or any building or structure. (Ord. 5056-B (part), 2000)

15.48.610 Terrace drainage. Terraces at least eight feet in width shall be established at not more than twenty-five (25) feet in height intervals for all cut and fill slopes exceeding thirty (30) feet in height. Where only one terrace is required, it shall be at approximately mid-height. Suitable access shall be provided to permit proper cleaning and maintenance of terraces and terrace drains. Swales or ditches on terraces shall have a minimum depth of one foot, a minimum longitudinal grade of four percent, a maximum longitudinal grade of twelve (12) percent. Down-drains or drainage outlets shall be provided at approximately three hundred (300) foot intervals along the drainage terrace. Down-drains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal. If the drainage discharges onto natural ground, adequate erosion protection shall be provided. (Ord. 5056-B (part), 2000)

15.48.620 Subsurface drainage. Cut and fill slopes shall be provided with surface and/or subsurface drainage as necessary for stability. (Ord. 5056-B (part), 2000)

15.48.630 Erosion and sediment control. The following shall apply to the control of erosion and sediment from grading operations:

A. Grading plans shall be designed with long-term erosion and sediment control as a primary consideration. Erosion prevention and source control are to be emphasized over sediment controls and treatment.

B. Grading operations shall provide erosion and sediment control measures, except upon a clear demonstration, to the satisfaction of the community development resource agency that at no stage of the work will there be any substantial risk of increased sediment discharge from the site. Temporary mulch, revegetation, or other stabilization methods shall be applied to areas where permanent revegetation or landscaping cannot be immediately implemented. Unless otherwise exempted in this article, grading activity must be scheduled to ensure completion or winterization by October 15th of each year.

C. Grading activity shall be conducted such that the smallest practicable area of erodible land is exposed at any one time during grading operations and the time of exposure is minimized. Land disturbance shall be limited to the minimum area necessary for construction.

D. Natural features, including vegetation, terrain, watercourses and similar resources shall be protected and preserved wherever possible. Units of grading shall be dearly defined and marked to prevent damage by construction equipment.

E. Permanent vegetation and structures for erosion and sediment control shall be installed as soon as possible.

F. Adequate provision shall be made for effective maintenance of temporary and permanent erosion and sediment control structures and vegetation. Sediment and other construction-related wastes shall be retained and properly managed on the site or properly disposed of off-site.

G. No topsoil shall be removed from the site unless otherwise directed or approved by the community development resource agency. Topsoil overburden shall be stockpiled and redistributed where appropriate within the graded area after rough grading to provide a suitable base for seeding and planting. Runoff from the stockpiled area shall be controlled to prevent erosion and resultant sedimentation of receiving water.

H. Runoff shall not be discharged from the site in quantities or at velocities substantially above those which occurred before grading except into drainage facilities, whose design has been specifically approved by the community development resource agency.

I. The permittee shall take reasonable precautions to ensure that vehicles do not track or spill earth materials into public streets and shall immediately remove such materials if this occurs.

J. All cut and fill slopes shall be adequately stabilized to prevent erosion and failure through temporary and permanent means.

K. Control measures shall be employed to prevent transport of dust off the project site or into any drainage course or water body. (Ord. 5407-B § 17, 2006: Ord. 5373-B (part), 2005; Ord. 5056-B (part), 2000)

15.48.650 Erosion and sediment control plans. Erosion and sediment control plans prepared pursuant to this article shall comply with all of the following:

A. The erosion and sediment control plan need not be a separate sheet if all facilities and measures can be shown on the grading sheets without obscuring the clarity of either the grading plan or the erosion and sediment control plan.

B. An erosion and sediment control plan shall be required whenever:

1. The graded portion of the site includes more than ten thousand (10,000) square feet of area having a slope greater than ten (10) percent;

2. Clearing and grubbing of areas of one acre or more regardless of slope;

3. There is a significant risk that more than two thousand five hundred (2,500) square feet will be unprotected or inadequately protected from erosion during any portion of the rainy season;

4. Grading will occur within fifty (50) feet of any watercourse;

5. The community development resource agency determines that the grading will or may pose a significant erosion, or sediment discharge hazard for any reason; or

6. The site is located within the Tahoe Basin.

C. Except as provided in Section 15.48.120 of this article, sediment and erosion control measures must be in place or be capable of being placed within twenty-four (24) hours, in the opinion of the agency director, by October 15th. The agency director may require suspension of any and all grading activities between October 15 and May 1 without prior notice.

D. The applicant shall submit with the erosion and sediment control plans a detailed cost estimate covering this work.

E. Erosion and sediment control plans shall include an effective revegetation program to stabilize all disturbed areas, which will not be otherwise protected. All such areas where grading has been completed between April 1 and October 15 shall be planted by November 1st. Graded areas completed at other times of the year shall be planted within fifteen (15) days. If revegetation is infeasible or cannot be expected to stabilize an erodible area with assurance during any part of the rainy season and the unstable area exceeds two thousand five hundred (2,500) square feet, additional erosion and sediment control measures or irrigation of planted slopes may be required as appropriate to prevent increased sediment discharge.

F. Erosion and sediment control plans shall be designed to prevent increased discharge of sediment at all stages of grading and development from initial disturbance of the ground to project completion. Every feasible effort shall be made to ensure that site stabilization is permanent. Plans shall indicate the implementation period and the stage of construction where applicable.

G. Erosion and sediment control plans shall comply with the recommendations of the responsible civil engineer, geotechnical engineer, engineering geologist, or landscape architect involved in preparation of the grading plans.

H. The structural and hydraulic adequacy of all stormwater containment or conveyance facilities shown on the erosion and sediment control plans shall be verified by a civil engineer, and he or she shall so attest on the plans. Sufficient calculations and supporting material to demonstrate such adequacy shall accompany the plans when submitted.

I. Erosion and sediment control plans shall be designed to meet anticipated field conditions.

J. Erosion and sediment control plans shall provide for inspection and repair of all erosion and sediment control facilities at the close of each working day during the rainy season and for specific sediment cleanout and vegetation maintenance criteria.

K. Erosion and sediment control plans shall comply with any and all standards and specifications adopted herein for the control of erosion and sedimentation on grading sites. These standards and specifications shall be in general compliance with the current Erosion and Sediment Control Guidelines for Developing Areas of the Sierras, published by the High Sierra Resource Conservation District. (Ord. 5407-B § 19, 2006: Ord. 5373-B (part), 2005; Ord. 5056-B (part), 2000)

15.48.660 Vehicular ways—General. Vehicular ways shall conform to the grading requirements of this article. (Ord. 5056-B (part), 2000)

15.48.670 Vehicular ways—Drainage. Vehicular ways shall be graded and drained in such a manner that will not allow erosion or endanger the stability of any adjacent slope. Surface discharge onto adjoining property shall be controlled in such a manner that it does not cause erosion or endanger existing improvements. Bridges and culverts installed in watercourses may be reviewed by the Placer County Flood Control and Water Conservation district and must be approved by the agency director and any other required permitting agency. (Ord. 5407-B § 20, 2006: Ord. 5056-B (part), 2000)

Placer County Flood Control and Water Conservation District

The Placer County Flood Control and Water Conservation District (District) was established in 1984 by the State Legislature as a Special District and is separate from County government, to address flood control issues arising with growth. District boundaries are the same as Placer County boundaries. A nine-person board of directors governs the District. Members include a representative from each of the six incorporated cities in Placer County, two representatives from the Board of Supervisors and one Member-at-large appointed by the Board of Supervisors.

The primary purpose of the District is to protect lives and property from the effects of flooding by comprehensive, coordinated flood prevention planning. The District uses consistent standards to evaluate flood risk, and implements flood control measures such as requiring new development to construct detention basins and operation and management of a flood warning system. Access to Western Placer County real-time stream level and flood warning information is available on-line at Sacramento County Flood Warning System, City of Roseville Flood Warning System and Placer County Flood Control District Flood Warning System.

The District:

- Implements regional flood control projects;
- Develops and implements master plans for selected watersheds in the county;
- Provides technical support and information on flood control for the cities, the county, and the development community;
- Operates and maintains the County flood warning system;
- Reviews proposed development projects to see they meet District standards;
- Develops hydrologic and hydraulic models for county watersheds; and
- Provides technical support for Office of Emergency Services activities.

A Stormwater Management Manual is maintained by the District, which contains the following relevant regulations:

Section VI – Drainage Systems, Item 2. Design Storms

New development shall be planned and designed so that no damages occur to structures or improvements during the 100-yr event and no inundation on private property occurs during the 10-yr event.

a. Local Drainage – The 10-yr event is the minimum design storm for new developments in all drainages and all dedicated drainage facilities will be sized for this event.

b. The development plan shall identify the effects of the 100-yr event and provision will be made in the plan to prevent loss of life and damages to property during a 100-yr event.

North Tahoe Public Utility District

The North Tahoe Public Utility District (NTPUD) provides services for water, sewer and recreational facilities to north shore areas of Lake Tahoe, including unincorporated parts of Placer County. The service boundaries span from the Nevada state line at Crystal Bay to Dollar Hill and the service area is 3.4 square miles. The majority of the land consists of Tahoe and Toiyabe National Forests mixed with developed areas. The NTPUD's potable water supply is primarily Lake Tahoe and water pumped from groundwater wells owned and operated by NTPUD. The District water system is comprised of three Lake intakes, three, shared groundwater wells, eight storage facilities with approximately 3.50 million gallons of storage, three booster systems and forty-five miles of water lines. Only one of the three lake intakes, the National Avenue intake, is currently in operation.

2.3.5 Applicable Permits

The following is a list of permits and regulatory requirements that must be met for the Project:

- California Department of Fish and Game (CDFG) Section 1600 Streambed Alteration Agreement will be prepared to address the diversion of water during construction. Project construction would be limited to the low flow period of June 15 to September 15;
- California Department of Water Resources/Reclamation Board Permit is required for any activities affecting irrigation or flood control structures;
- Lahontan 401 Water Quality Certification;
- Lahontan Tahoe NPDES Construction General Permit;
- USACE Section 404 Dredge and Fill Permit;
- TRPA Grading Permit; and
- Placer County Grading Permit.

3.0 Environmental Evaluation

3.1 Significance Thresholds and Criteria

The Project would be considered to have a significant impact on water resources if construction, operations, or maintenance activities considerably affect the overall amount of runoff, the amount of discharge into Dollar Creek or other surface drainages, the existing pattern of surface drainage in the project area or project vicinity, or the amount of TRPA-designated source waters. The Project would be considered to have a significant impact on water quality if construction, operations or maintenance activities contribute to the exceedance of State or regional WQOs or conflict with the objectives, plans goals, policies or implementation of the TRPA Regional Plan and Code of Ordinances, Lahontan Basin Plan, or Placer County General Plan and ordinances.

The CEQA Guidelines and TRPA Initial Environmental Checklist (IEC) were consulted in the preparation of the standards to determine water quality impacts. In addition to impacts on water quality, an analysis is made of the Project's impact on surface and subsurface hydrology. The WQM determines whether the project-induced effects would have potential adverse impacts on water quality. An adverse impact is based on whether discharges to receiving waters would cause exceedances of water quality objectives or would impair the beneficial uses identified by the State of California. For the purpose of this WQM, an impact is considered adverse if the Project:

- Violates any water quality standards or waste discharge requirements;
- Substantially alters the existing drainage pattern of the site or area, including alteration of a stream or river in a manner that would result in substantial erosion or siltation on or offsite;
- Substantially alters the existing drainage pattern or the site or area, including through the alteration of the course of a stream or river, or substantially increases the rate or amount of surface runoff, which would result in flooding on or offsite;
- Creates or contributes increased volumes or runoff water that would exceed the capacity of existing or planned storm water drainage systems, or cause substantial additional sources or polluted runoff;
- Otherwise substantially degrade water quality;
- Places structures that would impede or redirect flood flows within a 100-year flood hazard area; and/or,
- Expose people or structures to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches.

3.2 Potential Project Impacts

3.2.1 No Build

The no build/no project alternative assesses the existing conditions, as well as the physical conditions that are likely to occur in the future if the Project not approved. The purpose of

describing a no build alternative is to allow decision-makers to compare the impacts of approving the proposed Project with the expected impacts of not approving the Project.

The no build alternative would not result in the construction or operation of a shared-use trail, trailhead access driveway and parking lot area, or neighborhood connectors. No site grading or increase in impervious surfaces would occur within the project area. Unmanaged access and recreation would continue.

Opportunities for regional trail linkages would be lost. Placer County would not be able to assist in meeting the demand for new shared-use trails in the Tahoe Basin. Sensitive natural and cultural resources may be expected to degrade over time due to overuse. Under the no build alternative visitor use intensity, recreational facility development, and possible future acquisitions may not be developed. Trail improvements and installation of informational and directional signs would not occur.

3.2.2 Build

Erosion and Sedimentation

Potential impacts associated with construction practices include soil and vegetation disturbance from grading, filling and construction equipment use and storage.

Perennial surface waters within the project area include Dollar Creek and Dollar Reservoir. An intermittent spring was also mapped in the northern project area. Construction activities, operation and maintenance of the shared-use trail and human activities within the project area can accelerate the rate and amount of erosion and sedimentation. Sedimentation of these surface waters may increase turbidity and physically alter the stream and lakebed habitats. As a tributary flowing into Lake Tahoe, any increase in sediment loading to Dollar Creek may be considered a significant impact.

To avoid potential impacts from soil and vegetation disturbance, the Project revegetates and restores areas disturbed during construction and addresses maintenance of such areas as part of the Operations, Management and Maintenance Strategies (OMMS). Also, the Project implements a paved trail surface for use during saturated soil conditions, which is expected to alleviate erosion and sedimentation along dirt trails currently used by the public during spring runoff conditions.

Runoff and Drainage

The Project involves minor changes to the existing SR 28 right-of-way to accommodate the proposed trailhead access roadway and trail crossing and may affect roadway drainage and established vegetation. Construction of the Project involves 1.5 acres of temporary soil disturbance and 4.9 acres permanent soft and hard land coverage. The Project locates a portion of this impervious surface over presently compacted surfaces (i.e., TRPA existing verified land coverage) associated with existing informal trails and minimizes new land coverage to the extent possible. The shared-use trail is primarily sited in TRPA Bailey LCD 6 areas.

The Project proposal includes a bridge span over the Dollar Creek channel and adjacent SEZ and asphalt over permeable fill in areas with evidence of saturated soils or surface hydrology to avoid potential effects to these sensitive areas. Change in runoff volume is minimized and potential

effects to drainage patterns within the project area are largely avoided through shared-use trail placement and design.

Water Quality Degradation

Potential sources of water pollution associated with this Project include stormwater runoff containing sediment from soil erosion and surface and groundwater contamination for construction materials such as concrete, paint and other chemical products and petroleum and wear products from construction vehicle operations. Transport of these materials usually occurs from rainfall runoff, but sediment can also be transported by wind. Watershed damage by natural or human-caused wildfires can decrease water quality by sedimentation.

Sediment is produced when soil particles are eroded from the land and transported to surface waters. Natural filtration and capture of sediments occurs via vegetation and soil cover on the ground. When land is cleared or disturbed to build a trail or parking area the rate of erosion can increase and the benefit of filtration can be diminished or completely absent. When vegetation is removed and soil is left exposed, there is a potential for it to be washed away during the precipitation event. Sediment-laden stormwater threatens to violate federal regional and state WQOs. Heavier and larger soil particles settle out of the water in lakes and streams onto aquatic plants and rocks. Suspended sediment prevents sunlight from reaching aquatic plants, clogs fish gills, and chokes other organisms. The settled sediment can destroy the habitat of macroinvertebrates.

Other pollutants, such as heavy metals and pesticides can adhere to suspended soil particulates and are transported by wind and water. These constituents, in elevated concentrations, pose threats to water quality and can harm aquatic life by interfering with photosynthesis, respiration, growth, and reproduction. Oils and grease can leak from equipment during construction and from visitor vehicles onto parking lot surfaces during long-term trail operations. Heavy metals do originate from natural sources, such as minerals in rocks, vegetation, sand, and salt. Other sources include motor vehicle exhaust, worn tires and engine parts, vehicle brake linings, weathered paint, and rust. Heavy metals are toxic to aquatic life and can potentially contaminate groundwater.

Other potential adverse impacts to surface water quality that could occur include changes in temperature, pH, dissolved oxygen, nutrient concentrations, toxicity, and ionic concentrations. These changes, in sufficient degree, could have a substantial impact on water quality and could adversely affect sensitive aquatic life.

The duration of the water quality impacts from sediment pollutant sources could be short-term and long-term, but because the shared-use trail will not allow motorized transport, the duration from oil and grease and heavy metals would primarily be during the construction phase only.

These potential short-term water quality impacts are anticipated to be minor and are not expected to threaten beneficial uses. Implementing the project compliance measures and the appropriate BMPs during construction is proposed to adequately avoid and minimize potential short-term impacts. Shared-use trail location and design and the strategies included in the Operations, Management and Maintenance Plan (OMMS) serve to avoid and minimize potential long-term effects from operation and maintenance of the Project.

Potential jurisdictional wetlands and waters of the U.S

Wetland delineation is being completed for the project area. Potential filling of jurisdictional waters of the U.S as a result of the Project is not anticipated and compensatory mitigation for temporary and permanent impacts is not expected to be required. If filling is required, however, compensatory mitigation for the Project would be established during the permitting process.

100-year Floodplain

The project area is located outside of the boundaries of the 100- and 500-year flood zones (Zone X), as depicted on the Flood Insurance Rate Maps prepared by FEMA. In addition, the Project does not propose to alter the current alignment of the Dollar Creek channel, nor would the Project result in a substantial increase in surface water runoff that could alter flood zone boundaries.

Groundwater and Construction Site Dewatering

Construction activities and long-term operations and maintenance are not expected to affect groundwater recharge, discharge, flow conditions, or groundwater quality. Cut slopes are typically less than 5 feet and do not occur in areas of shallow groundwater. The potential for shallow groundwater exists along Dollar Creek channel and SEZ, but would be avoided by the proposed bridge span. The trail alignment has been designed to avoid a spring area in the northern project area. The need to dewater during construction is not expected but a contingency dewatering plan will be submitted as part of the SWPPP required for Lahontan NPDES permit coverage.

Seiche/Tsunami

As a factor of elevation, the project area is located above of the zone of inundation that could result from a seiche in Lake Tahoe. A seiche in Dollar Reservoir could cause overflow from the dam but because of local topography would not be expected to create a zone of inundation within the project area.

4.0 Recommended Measures

4.1 Construction Period (Short-term)

Prepare TRPA Erosion and Sediment Control Plan. The TRPA Erosion and Sediment Control Plan (ESCP) identifies the type and placement of temporary construction BMPs and is often complimentary to the SWPPP required for NPDES permitting. Project construction documents will demonstrate compliance with TRPA Revised Code Chapter 60, Section 60.4.

File Permit Registration Documents (PRDs). The County shall electronically file a Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) with Lahontan through the SMARTs system prior to any soil-disturbing activities to obtain coverage under Board Order R6T-2011-0019.

Conform to NPDES Permit Requirements (SWPPP, On-site Monitor, Emergency Response Plan, Construction Dewatering Plan, Stockpiling and Staging Areas). The Project must comply with Lahontan Board Order R6T-2011-0019, entitled *General Waste Discharge Requirements and*

National Pollutant Discharge Elimination System for Discharges of Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado and Placer (Permit No. CAG616002*).* The permit applies to construction sites and activities resulting in the disturbance of one or more acres of soil disturbance in the Lake Tahoe Hydrologic Unit. Construction activities include clearing, grading, demolition, excavation, construction or new structures and reconstruction. Most detail associated with SWPPP consideration will be developed during preparation of the final construction plans and address features such as construction techniques and staging. The project description incorporates general features related to SWPPP requirements as follows:

a) Prevent discharge into surface water, including into SEZ and wetlands, during project construction. Critical areas of concern include construction near Dollar Creek and the SEZ and wetland areas.

b) To prevent discharge from soil or construction activities, construction plan proposals shall implement the following provisions:

- Construction scheduling shall respect site conditions and occur during the driest conditions possible.

- Construction activity including grading and equipment and materials movement shall be conducted within designated work areas near the trail surface, identified with construction fencing or other approved means.

- Site preparation for the construction zone includes tree and other vegetation removal. As identified in the RRPs some riparian vegetation for removal and replacement will be stockpiled, irrigated, and protected for reuse. Brush, slash, timber, and removed stumps not used for restoration will be chipped for mulch or otherwise disposed of in accordance with local restrictions and regulatory requirements.

- Vegetation protection for existing trees and other vegetation.

- In SEZs, construction activities shall avoid existing vegetation removal to the maximum extent possible, including in areas of necessary equipment movement. Use of pin-type footings for boardwalk construction avoids most clearing and excavation, and allows smaller equipment to complete construction. Compact excavators and ATV-type utility vehicles will be preferred for boardwalk construction (helical pier footings area) and materials movement to reduce SEZ vegetation disturbance. Where necessary, construction proposals could also use linked landing plates, geotextile fabric topped with sand, or an alternative with equal or lesser impacts to protect work zone soils near the trail.

- Engineering and construction control details for the new bridge at Dollar Creek will result from further geotechnical evaluation. Current project planning assumes new bridge supports can be piling or pier design; however use of concrete footings may be necessary. If so, dewatering for footings construction at Dollar Creek is possible. In that event, construction scheduling will direct footings excavation to the driest conditions possible. Excavation sites will be protected with sand bags, water berms, siltation fences, or other approved techniques. Localized pumping will clear the construction area of turbid standing

water. Pumped water could be used to irrigate planted vegetation, sprayed on uplands to allow infiltration at the project site, held in Baker Tanks, or otherwise treated to remove suspended sediment to comply with the requirements of the permit prior to discharge to Dollar Creek.

- Includes location requirements for staging areas outside of SEZ and floodplains. Materials storage and stockpiles shall be protected from erosion with temporary siltation fences, straw wattles, or other approved methodologies. As potential staging areas sit within or adjacent to residential development, careful consideration of dust control provisions, including prevention of track-out, will be necessary (Fugitive Dust Control Plan, provides more detail). Construction specifications will employ exposed soil watering, stockpile protection, street sweeping and/or other techniques to control dust. Access to staging and site construction will be protected with clean gravel or other approved material to reduce track-out.

- If construction conditions warrant equipment washing to prevent soil transport off site, the areas will be identified in the SWPPP and located outside of sensitive areas and away from stream channels.

- Project construction involves the short-term use of hazardous materials necessary for operation and maintenance of construction equipment, (e.g., diesel fuel and hydraulic fluid). Hazardous materials will be stored at the staging areas identified and prevented from contaminating the site from natural conditions or vandalism. Fueling and necessary maintenance of construction equipment will occur outside of SEZ, wetland or floodplain areas and be managed to avoid site contamination. A spill response plan will include provisions for worker training, spill containment, agency notice, and a remediation process.

- If construction for any given segment will extend beyond a single construction season, the project site will be stabilized to meet permit requirements for withstanding the 20-year, 1-hour storm.

- A Qualified SWPPP Practitioner (QSP) that is on-site during construction activities provides professional expertise and expedited response to correct issues that could arise during construction and assures compliance with permitting conditions and fulfillment of project commitments.

c) Prevent discharge into surface water throughout the life of the project. Key project features to address these requirements include installation of permanent BMPs and water quality protection controls, revegetation and restoration of disturbed soil, and minimization of foot trail width where necessary. These features are described in more detail above. The Project proposal includes Project Operations, Management and Maintenance Strategy (OMMS), which outlines anticipated maintenance schedules for post-construction and permanent BMPs.

d) Properly site staging and stockpiling areas to reduce potential impact to surface water quality by locating these areas on higher capability lands, maximizing distance to streams and conveyance systems.

Install Construction BMPs. The Discharger shall minimize or present pollutants in stormwater discharges and non-authorized non-stormwater discharges through the use of controls, structures and management practices that achieve Best Available Technology for toxic and non-conventional pollutants and Best Conventional Pollutant Control Technology (BCT) for conventional pollutants. Stormwater controls and control locations shall be installed per the SWPPP for the active project site. Construction BMPs shall be installed per Section V111. Best Management Practices (BMPs) of Board Order R6T-2011-0019 for site management, sediment and erosion/stabilization controls, construction site dewatering or diversions,

Comply with TRPA Grading Period. Soil-disturbing activities shall be conducted between May 1 and October 15.

Design Construction-related BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs. Construction-related Best Management Practices (BMPs) shall be designed according to the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development / Redevelopment, and/or for Industrial and Commercial, (and/or other similar source as approved by the Engineering and Surveying Department (ESD)). Construction (temporary) BMPs for the Project could include, but are not limited to: Fiber Rolls (SE-5), Hydroseeding (EC-4), Stabilized Construction Entrance (LDM Plate C-4), Storm Drain Inlet Protection (SE-10), Silt Fence (SE-1), revegetation techniques, dust control measures, and concrete washout areas.

Conform to Provisions of Placer County Grading, Erosion and Sediment Control Ordinance. All proposed grading, drainage improvements, vegetation and tree removal shall be shown on the Improvement Plans and all work shall conform to provisions of the County Grading Ordinance (Ref. Article 15.48, Placer County Code) and Stormwater Quality Ordinance (Ref. Article 8.28, Placer County Code) that are in effect at the time of submittal. No grading, clearing, or tree disturbance shall occur until the Improvement Plans are approved and all temporary construction fencing has been installed and inspected by a member of the DRC. All cut/fill slopes shall be at a minimum of 2:1 (horizontal:vertical) unless a soils report supports a steeper slope but fill slopes shall not exceed 1.5:1 (horizontal:vertical) and the Engineering and Surveying Department (ESD) concurs with said recommendation.

The applicant shall revegetate all disturbed areas. Revegetation undertaken from April 1 to October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with project Improvement Plans. It is the applicant's responsibility to assure proper installation and maintenance of erosion control/winterization before, during, and after project construction. Soil stockpiling or borrow areas shall have proper erosion control measures applied for the duration of the construction activity as specified in the Improvement Plans. Provide for erosion control where roadside drainage is off of the pavement, to the satisfaction of the ESD.

The applicant shall submit to the ESD a letter of credit or cash deposit in the amount of 110% of an approved engineer's estimate for winterization and permanent erosion control work prior to Improvement Plan approval to guarantee protection against erosion and improper grading practices. Upon the County's acceptance of improvements, and satisfactory completion of a one-year maintenance period, unused portions of said deposit shall be refunded to the project applicant or authorized agent.

If, at any time during construction, a field review by County personnel indicates a significant deviation from the proposed grading shown on the Improvement Plans, specifically with regard to

slope heights, slope ratios, erosion control, winterization, tree disturbance, and/or pad elevations and configurations, the plans shall be reviewed by the DRC/ESD for a determination of substantial conformance to the project approvals prior to any further work proceeding. Failure of the DRC/ESD to make a determination of substantial conformance may serve as grounds for the revocation/modification of the project approval by the appropriate hearing body.

Identify Stockpiling and/or Vehicle Staging Areas on Improvement Plans. Stockpiling and/or vehicle staging areas shall be identified on the Improvement Plans and located as far as practical from existing dwellings and protected resources in the area.

Satisfy the requirements of Section II of the Land Development Manual. (LDM). The applicant shall prepare and submit Improvement Plans, specifications and cost estimates (per the requirements of Section II of the Land Development Manual [LDM] that are in effect at the time of submittal) to the ESD for review and approval. The plans shall show all conditions for the project as well as pertinent topographical features both on- and off-site. All existing and proposed utilities and easements, on-site and adjacent to the project, which may be affected by planned construction, shall be shown on the plans. All landscaping and irrigation facilities within the public right-of-way (or public easements), or landscaping within sight distance areas at intersections, shall be included in the Improvement Plans. The applicant shall pay plan check and inspection fees. (NOTE: Prior to plan approval, all applicable recording and reproduction cost shall be paid). The cost of the above-noted landscape and irrigation facilities shall be included in the estimates used to determine these fees. It is the applicant's responsibility to obtain all required agency signatures on the plans and to secure department approvals. If the Design/Site Review process and/or DRC review is required as a condition of approval for the project, said review process shall be completed prior to submittal of Improvement Plans. Record drawings shall be prepared and signed by a California Registered Civil Engineer at the applicant's expense and shall be submitted to the ESD prior to acceptance by the County of site improvements.

Conceptual landscape plans submitted prior to project approval may require modification during the Improvement Plan process to resolve issues of drainage and traffic safety. Any building permits associated with this phased project shall not be issued until the Improvement Plans for that project phase are approved by the ESD.

Avoid Disturbance to Wetlands and Waters of the U.S. and Obtain Section 404 Permit from USACE. The County will, before construction of the Project, complete a jurisdictional wetlands delineation to determine the location of jurisdictional wetlands and waters of the U.S. within the project area. Design measures will avoid or minimize impacts to delineated wetlands and waters of the U.S. to the extent possible as determined by the USACE and Lahontan. If development within the delineated wetlands cannot be avoided, and if disturbance quantities rise to the minimum level, a Section 404 permit shall be obtained from the USACE as well as a water quality certification (Section 401) from Lahontan. The County shall comply with requirements of the permits to mitigate the specific impacts of the Project.

Final Construction Dewatering Plan. Because groundwater may be intercepted, which is the process of diverting and/or capturing the groundwater flows, dewatering, which is the removal and disposition of the water itself, shall be implemented onsite.

The final dewatering plan shall be further developed by the construction contractor based on the final site design of the selected alternative. The construction contractor shall demonstrate that they have a reliable plan for dewatering as well as contingency in case that plan does not function as expected. The contractor shall have demonstrable experience in dewatering operations and evidence of such experience shall be provided to TRPA and the County with the dewatering plan.

Dewatering discharges shall be treated to a level such that they do not contain pollutants, including but not limited to sediment, before discharging to surface waters, should discharge to surface water be necessary. A preliminary plan shall also be submitted to Lahontan, approved and in place prior to excavation and once excavation is underway, the primary plan shall be implemented with alternative plans in queue and implementable within a short window if necessary.

4.2 Post-Construction Period, Operations and Maintenance (Long-term)

Design Water Quality Protection BMPs According to the California Stormwater Quality Association Stormwater BMP Handbooks and TRPA's Handbook of BMPs. Water quality Best Management Practices (BMPs) shall be designed according to the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development / Redevelopment, and/or for Industrial and Commercial, (and/or other similar source as approved by the Engineering and Surveying Department (ESD)). TRPA revised Code Chapter 60 establishes requirements for permanent BMPs. The Project incorporates provisions related to drainage conveyances, water quality treatment, cut/fill slopes, and revegetation. The Project proposes to infiltrate storm runoff from trail surfaces in adjacent clear zone areas. Where the trail lies in close proximity to existing roadways, capture and conveyance to infiltration areas may be necessary and will be defined during final engineering design.

The Project conforms to requirements for permanent BMPs as outlined in TRPA revised Code 60 (Section 60.4), Lahontan's Basin Plan Chapter 5 and County Codes and Ordinances.

Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs. The Project Applicant shall prepare and implement an Inspection, Operations, Maintenance and Monitoring Plan for Stormwater Treatment Systems and Permanent BMPs. This plan shall comply with TRPA revised Code of Ordinances Chapter 60 and Lahontan's updated WDRs. TRPA, Lahontan, and Placer County shall review the plan prior to issuance of final Project approval. Post-project monitoring shall include post-project BMP effectiveness monitoring and stormwater monitoring

Implement Post-Construction Stormwater Management. Post-construction stormwater management shall be implemented in accordance with SWPPP requirements for Lahontan Notice of Termination (NOT) conformance.

Reduce Stormwater Runoff to Pre-Project Volumes. The Improvement Plan submittal and Drainage Report shall provide details showing that storm water runoff shall be reduced to pre-project conditions through the installation of detention facilities. Detention facilities shall be designed in accordance with the requirements of the Placer County Storm Water Management Manual that are in effect at the time of submittal, and to the satisfaction of the Engineering and Surveying Department (ESD). No detention facility construction shall be permitted within any identified wetlands area, floodplain, or right-of-way, except as authorized by project approvals.

Submit Final Drainage Report– Conformance with Section 5 of the Placer County Land Development Manual and Stormwater Management Manual. The Project Applicant shall prepare and submit with the project Improvement Plans, a Final drainage report for each project phase in conformance with the requirements of Section 5 of the LDM and the Placer County Storm Water Management Manual that are in effect at the time of submittal, to the Engineering and Surveying Department for review and approval. The report shall be prepared by a Registered Civil Engineer and shall, at a minimum, include: A written text addressing existing conditions, the effects of the

improvements, all appropriate calculations, a watershed map, increases in downstream flows, proposed on- and off-site improvements and drainage easements to accommodate flows from this project. The report shall identify water quality protection features and methods to be used both during construction and for long-term post-construction water quality protection. "Best Management Practice" (BMP) measures shall be provided to reduce erosion, water quality degradation, and prevent the discharge of pollutants to stormwater to the maximum extent practicable.

Shared-Use Trail Operations, Maintenance and Management Strategies. Prepare OMMS and establish guidance for protection of critical resources, public access and use, and operations and maintenance for the Project.

Fugitive Dust Control Plan. This compliance measure implements standard dust mitigation and controls required by Placer County Air Pollution Control District Rule 228 - Fugitive Dust. Rule 228 applies to the entire County and addresses fugitive dust generated by construction and grading activities and by other land use practices including recreational uses. Examples of dust sources that are subject to Rule 228 are excavating and trenching, drilling, boring, earthmoving and grading operations, pavement cutting operations, brush clearing, travel on unpaved roads within construction sites and wind-blown dust from unprotected grading areas and stockpiles. Rule 228 prohibits visible dust crossing project area boundaries, generation of high levels of visible dust (i.e., dust sufficient to obscure vision by 40%) and places controls on the track-out of dirt and mud on public roads. The rule also established minimum dust mitigation and control requirements that must be uses for all construction and grading activities.

When an area to be disturbed is greater than one acre, and if required by a Condition of Approval of a discretionary permit, a dust control plan (DCP) must be submitted to and approved by the District. The dust control plan instructions contain a DCP Application form. Completion of this application and subsequent approval by the District satisfy requirements to have a dust control plan. Failure to implement the plan is subject to enforcement through the Conditions of Approval, and by District through Rule 228.

Within the project area, few limitations to typical DCP elements exist. Site watering must occur to avoid spray beyond the project area in those locations with narrow right-of-way (e.g. where residences or other structures lie close to the project area). Additionally, equipment washing must occur on high capability land with the discharge contained to avoid runoff.

Implement Revegetation and Restoration Plans. Prepare RRPs for trail removal and BMP retrofitting, and restoration of disturbed areas. The Project proposes the use of native and low water demand revegetation plantings and thus proposes no ornamental landscaping, irrigation or fertilizer plans.

Maintain Trail Decommissioning and limit disturbance and erosion from informal trails to remain. Decommissioned trails and informal trails to remain shall be maintained as specified in the Project's OMMS.

Maintain Hillside Construction Techniques. Hillside construction techniques stall be maintained as specified in the Project's OMMS.

Install and Maintain Educational and Informational Signage. Educational and informational signage shall be installed at trail entrances and neighborhood connectors and maintained as needed and as specified in the Project's OMMS.

Maintain Physical Barriers and Screening. Physical barriers and privacy screenings, if implemented, shall be maintained as necessary and as specified in the Project's OMMS.

SEZ Restoration for New Disturbance. The SEZ restoration requirement for new land coverage totals 429 square feet because the Project proposal successfully avoids direct impacts from land coverage within SEZ areas through shared-use trail location and a bridge span at Dollar Creek. Direct effects are avoided but TRPA land coverage regulations apply.

5.0 References

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